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SCHOOL OF MEDICINE

A
YEAR-BOOK
OF
MEDICINE, SURGERY,
AND THEIR
ALLIED SCIENCES,
FOR
1862.

EDITED BY
DR. MONTGOMERY, DR. HANDFIELD JONES,
MR. WINDSOR, DR. GRAILY HEWITT,
AND
DR. SANDERSON,

FOR
THE NEW SYDENHAM SOCIETY.
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REPORT ON PHYSIOLOGY.

BY

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GENERAL PHYSIOLOGY.

CELLS, ELEMENTARY ORGANISMS, AND CORPUSCLES.

Schultze, M.—*On Muscle-corpuscles, and on what is to be understood by a Cell.* Archiv für Anatomie, Physiologie, &c., 1861, p. 1.

Reichert, C. B.—*The pleated Ring surrounding the first two segments of the cleaving Yelk in the Frog's Egg, and its significance in regard to the Cell-theory.* Archiv für Anatomie, Physiologie, &c., 1861, p. 133.

Hensen.—*Researches on the Physiology of Blood-corpuscles and on their Cellular Nature.* Siebold u. Kölliker's Zeitschr., vol. ii, p. 253.

Bruecke, E.—*The Elementary Organisms.* Moleschott's Untersuchungen zur Naturlehre, vol. viii, part 5.

Boettcher, A.—*On the Formation of the Red Blood-corpuscles.* Virchow's Archiv, vol. xxiv, p. 606, 1862.

Robin, Ch.—*On the production of Blastodermic Cellules, without cleaving of the Yelk, in some Articulates.* Comptes Rendus, Jan. 20th, 1862.

However widely animal tissues appear to differ from each other in their ultimate structure, they are, nevertheless, at an early stage of their development, one and all composed of essentially the same organic units. Thus may be expressed the leading idea of Schwann, and his great work in all its parts is an exposition of this idea. It was a natural consequence of this view that he himself, and many others after him, endeavoured to define with the utmost precision the typical nature of those organic elements to which the name *cell* had been given. It became soon an accepted dogma in physiology that a full-grown animal- or vegetable-cell was a minute vesicle, enclosing within its membrane, besides fluid contents, a peculiar round or oval body, called the nucleus, in which was seen another very small globule, the nucleolus. An immense amount of labour has been bestowed on the task of reducing all the apparent complexity in organic nature to this simple standard. Schwann himself seems to have met with the greatest difficulty in demonstrating the cell-membrane in all instances in which cells presented themselves to him. He enumerates five different reasons why the membrane is not always satisfactorily seen.

Still he maintains that it is nevertheless present in all cases, and that it forms an essential constituent of the cell. Doubts as to the correctness of this opinion have been raised in various quarters.

Recently, Schultze has, after careful researches, come to the conclusion that the most important and vital cells have no membrane; that, where the membrane is actually detected, it is almost always a product of retrograde metamorphosis; and that the only essential constituents of a cell are a nucleus surrounded by a little lump of protoplasma.

Reichert, on the other hand, thinks that the pleated ring, which is seen to surround the first two segments of the cleaving yelk in the frog's egg, is sufficient proof that these bodies are each enclosed in a membrane.

Hensen takes it upon himself to demonstrate the cell-membrane where its occurrence is most doubtful, namely, in the blood-corpuscles. He says that the constituents of a blood-corpuscle are a coloured intracellular fluid, surrounded by a granular protoplasma, and a membrane enclosing the whole, and states that in corpuscles, which within the living body have been withdrawn from the circulation, the contents are often found contracted in the interior of the cell, and widely separated from its walls; and adds that this appearance may be also artificially produced by the addition of a solution of sugar to the blood.

Bruecke takes quite an original view of the nature of the elementary units which compose the animal organism. He entirely drops the notion of their morphological identity. To him no point of the old doctrine is essential. He thinks that a membrane, fluid contents, nucleus, and nucleolus, may or may not exist in the *elementary organisms.* He completely discards the leading idea of Schwann, and introduces a diametrically opposed view. He does not speak of cells, but of *elementary organisms;* and calls them *elementary* only because we have not yet any accurate knowledge of their organization, because we are not yet able to demonstrate their component parts. These *elementary organisms* may, perhaps, differ from each other almost as widely as one animal from another, and there is every reason to believe that their intimate structure is of a most complicated kind. How, for instance, can the motion which is exhibited by the ciliated epithelium be otherwise accounted for?—and what else can be indicated by the circle of prismatic rods which has been shown to exist in the cylindrical epithelium of the villi of the small intestines? Take, as a further instance, a saliva-corpuscle, in which so-called molecular motion is seen; compress it slighly, so as to flatten it, and the molecular motion in it will cease for ever. Does this not prove that an organic mechanism, which produces the motion in the uninjured corpuscle, has been destroyed by the pressure? We must infer, from analogy, that just as in the animal organism the different actions proceed from different organs, so also in the minute beings which are the elements of the larger ones does each vital action depend upon special organs. In the unicellular plants, which exist only as integral parts of a whole, we have another example of how far organization extends. The compound molecules of organic substances which make up the *elementary organisms* are not merely heaped together in a uniform mass, but are wonderfully arranged, so as to build up the minute but highly complicated frame of these living beings.

These ideas of Bruecke tend to break through the very foundations of the cell-theory, and to open a view, beyond, into an amazing and infinite variety of successive organizations.

As a contrast to the *organic* notions of Bruecke may be given a statement of Boettcher. He says that when currents of oxygen and of carbonic acid are conducted through a solution of hæmato-crystalline, a sediment is formed, which, to the naked eye, appears red and granular. Placed under the microscope this sediment is found to consist of corpuscles, which bear a striking resemblance to the red corpuscles of the blood. Several skilled observers who examined them, without having been informed of their nature, took them at once for blood-corpuscles. These artificial corpuscles vary somewhat in size, but are, on the average, as large as those of the blood. Boettcher thinks that they are, in fact, nothing but artificial blood-corpuscles, and that the true blood-corpuscles of the higher animals are formed, by the process of respiration, in the fluid in which they are floating. He promises to bring forward proof of this in a future paper.

According to Robin, the embryonic cells of certain insects (*Tipulariæ culciformes*) are not formed by cleaving of the yelk, but by a process which may be compared to that of budding. On the surface of the hyaline yelk minute, semi-globular protuberances make their appearance, which gradually increase to ·014 — ·016 mm. They become flattened by mutual pressure, get constricted at their base, and at last separate entirely from the yelk. A second and a third layer of globules are successively formed by the same process. No nucleus is at first visible. It is formed afterwards.

SCHRÖDER, H.—*On the Filtration of the Air, in reference to Putrefaction, Fermentation, and Crystallisation.* Annal. der Chem. u. Pharm., v. 117, p. 273.

The results of some previous investigations of Schröder on the same subject were communicated in the 'Year Book' for 1860, p. 126. We give here his final conclusions, so far as they relate to physiology:

1. All vegetable or animal forms derive their origin from other living vegetable or animal beings. *Omne vivum ex vivo.*

2. When a series of specific products of fermentation and putrefaction is developed at a certain spot, germs which originate the process have been conveyed to that spot through the medium of the air. Such is certainly always the case with regard to germs of mould, and to the ferments of wine, milk, and urine.

3. Vegetable and animal matter, in which all germs have been destroyed by boiling, and which, while still in a hot state, has been shut off from the direct influence of the external air by means of cotton-wool, remains perfectly free from mould, fermentation, or putrefaction. The germs, which otherwise would be supplied by the air, are arrested in the passage of the latter through the cotton-wool.

4. The germs of most vegetable and animal substances are destroyed by exposure for a short time to a temperature of 100° C.

5. But milk, yelk, and meat contain germs which are not thus killed. Boiling at a higher temperature under higher pressure, or long-continued boiling at 100° C., will, however, always suffice to destroy these germs also.

6. The germs in milk, yelk of egg, and meat, after having been boiled a short time, are still capable of being developed into the specific ferment of putrefaction, and sometimes also—those of yelk, at least—into long and indolent vibriones.

7. The specific ferment of putrefaction is of an animal nature. It developes itself and multiplies at the expense of albuminous compounds, but does not multiply under those conditions alone which supply all the requisites for vegetable growth.

Bucquoy, E.—*The effects of Compressed Air on the Animal Economy.* Strasbourg, 1861.

In Kehl, during the construction of the bridge over the Rhine, the labourers had to do their work in compressed air. Bucquoy often descended into the reservoir for the purpose of making observations on the effects of that air upon himself and others. He found that, in getting into it, the respiration lost its regularity. Restlessness was soon felt, and pain in the ears set in. It was as if a foreign body was driven with force into the external meatus. This pain was so intense that some people could not help crying. It went off and came back again, till it at last ceased. The breathing grew then quiet. The inspiration was shorter than usual, the expiration longer. The pulse was more frequent than normal. Hearing was impaired, and it felt as if an expanding body was lodged in the interior of the ear. The voice sounded as if it came through the nose, and to speak out required an effort. At 2½ atmosph. pressure it was impossible to whistle, and there was much perspiration.

On returning into the open air the breath formed a cloud. There was a sharp feeling of cold. The pain in the ears returned. There was palpitation of the heart, and the respiration got again irregular. On analysing the air it was found to contain 2·37 per cent. of carbonic acid. The remainder consisted of 19·23 per cent. of oxygen and 80·77 per cent. of nitrogen.

The increase in the frequency of the pulse is shown in the following table:

Atmospheric pressure.	At the beginning.	After quarter hour stay.	After twenty-five minutes' stay.	After half hour stay.	After one hour stay.
1—1·5	17·1	12·9	11·9	7·1	—
1·5—2·0	25·8	12·7	9·86	6·77	9·7
2·0—2·5	28·8	15·6	12·10	7·46	7·66
2·5—3·0	—	6·0	—	4·07	2·50

Those who had to work for a long time in the compressed air got emaciated. Many labourers lost their appetite, and looked as if they were just recovering from a severe illness. Muscular and rheumatic pains occurred often, and sometimes the effects of congestion of the lungs and of the brain were observed. The blood which was taken from veins presented, in some instances, a bright-red colour, and this was especially the case when the person had remained long in the condensed atmosphere. The movements of the limbs appeared to be more easy than in the normal air.

DIGESTION.

The Functions and Secretions of the Stomach, Salivary Glands, and Pancreas.

RAVITSCH, J.—*On the influence of the Pneumogastric Nerves upon the Movements of the Stomach.* Archiv für Anatomie, Physiologie, &c., 1861, p. 770.

MEISSNER, G., and BUETTNER.—*Researches on the Digestion of Albuminous Substances.* Zeitschrift f. Rationelles Medicin, 3rd series, vol. xii, pp. 46—67, 1861.

VAN BIERVLIET.—*On the Action of Saliva procured from the Parotid Gland.* Bull. de l'Acad. Roy. de Belgique, 10, 1861.

FEHR, CARL.—*On the Removal of all the Salivary Glands in Dogs.* Virchow's Archiv, vol. xxv, p. 187.

DANILEWSKY, A.—*On the specifically-acting Principles of the Natural and of the Artificial Pancreatic Juice.* Pathol. Inst. of Berlin, Virchow's Archiv, vol. xxv, p. 279.

The influence, which the pneumogastric nerves exert on the movements of the stomach, has been made a subject of study by many eminent physiologists; but the results at which they have arrived are so much at variance with each other, that the question cannot yet be looked upon as fairly settled.

Ravitsch performed his experiments on various animals. After they had filled their stomachs with food, he tied a ligature round the upper part of their œsophagus, and divided the pneumogastric nerves in the neck. He invariably observed that after the section the movements of the stomach ceased; but that, on the other hand, the secretion of gastric juice and digestion continued. Twenty-four hours after the operation the stomach was found quite full, and only that part of the food was digested which was in contact with its walls. When irritating substances were introduced into the stomach, with the view of stimulating the peripheral ends of the pneumogastric nerves, such movements were produced as sufficed to completely empty the organ. Ravitsch argues that this effect is not produced by the sympathetic nerves, nor by any idio-muscular contractions, but entirely by the pneumogastric nerves.

The contents of the stomach of animals which had died from starvation, or which had undergone the section of the pneumogastric nerves, did not yield any peptone, even when, by artificial means, digestion was kept up. The peptones had been absorbed. This Ravitsch found to be the case in horses, which, after twelve days' starvation, had still a full stomach. Absorption is, therefore, not stopped after the pneumogastric nerves have been divided, but it is retarded; and this latter circumstance is most likely due to the retention of food in the stomach.

Previous researches of Meissner on the digestion of albuminous substances were reported in the 'Year Book' for 1860, p. 85, and in that for 1861, p. 79. It was there shown that certain albuminates divide, under the action of digesting fluids, into three or four albuminous substances, which are nearly related to each other. Thus albumen and syntonin were found to yield peptone, parapeptone, and metapeptone; caseine, the above substances, and dyspeptone in addition. The experiments reported upon in the present paper were performed with the assistance of Buettner, and fibrine was the albuminate chosen for investigation. The blood of oxen and pigs, as it came from the blood-vessels of the animal, was at once stirred, and well washed in a continuous stream of water. The fibrine was then cut under water into very small pieces. These were again well washed, and then placed in a cup with an aqueous solution of ammonia, so weak as not to produce swelling of the flakes. The next day the fibrine was finally washed and strained. The substance thus obtained was much purer than when water only is used.

If, of two equal portions of this fibrine, the one is digested at a temperature of 40° C. with a quantity of hydrochloric acid, amounting to ·2 per cent., and the other portion is treated in the same manner, but with the addition of a few cubic centimètres of a concentrated solution of pepsine, it will be found that, after twelve hours, the fluid which contained hydrochloric acid only has scarcely dissolved a particle of fibrine, whilst the other, which contained pepsine as well, has dissolved the entire quantity. The solution of fibrine thus obtained is of a brown colour, and a jelly-like substance is seen suspended in it, which, on being treated with alcohol and ether, changes into a friable powder. This powder exhibits the same properties as the dyspeptone of caseine. By exactly neutralizing the brown filtered fluid, after it has cooled, a yellowish, flaky precipitate is formed, which is the parapeptone of the fibrine. The neutral, colourless fluid, which then passes through the filter, forms, on the addition of about ·04 per cent. of a concentrated acid, a white precipitate, the metapeptone of fibrine. The remaining fluid holds pure peptone in solution.

Van Biervliet performed experiments with pure saliva, obtained from the parotid gland of a man aged fifty-two, who had a fistula of the Stenonian duct. He found that saliva thus procured was possessed of the property of transforming starch into sugar in quite as marked a degree as mixed saliva. In a temperature equalling that of the blood the change was effected in a few seconds. The process was somewhat retarded by an admixture of gastric juice in moderate quantity, but was not entirely stopped until the quantity of the added juice exceeded at least three times that of the saliva. When the saliva was acidulated with hydrochloric acid, it lost much of its transforming power, and a further addition of the acid made the process cease at once. The saliva could be preserved for several hours in a temperature below 0° C. without losing its properties. And even when it had begun to undergo putrefaction, it was still capable of effecting the change of starch into sugar.

Fehr found that, after removal of all the salivary glands in dogs, no serious symptoms of any kind made their appearance. It seems, therefore, not necessary for life that the blood should be purified of the constituents of saliva by excretion through the salivary glands. No blood poisoning occurred. The only change observed was that the animals took more water than usual. Digestion was not in the least interfered with; and Fehr meets the objection, that there might have been in these cases a vicarious increase of the function of the pancreas, by stating that he never found that organ enlarged, even after the animal had existed for a long time without salivary glands. Sugar was found in the hepatic vein as usual, and Fehr concludes therefrom that sugar may be formed in the liver without saliva taking any part in the process.

Danilewsky's researches were made in the Pathological Institution of Berlin. They led to the following results:

1. Both the natural and the artificial pancreatic juice effect, outside the living body, three specific, physiological reactions:—*a.* It transforms starch into sugar. *b.* It dissolves in a characteristic manner coagulated albumen. *c.* It reduces neutral fats into their corresponding acids and glycerine.
2. Each of these reactions is brought about by a specific substance.
3. Two of these substances—the two, namely, which produce the first and second reactions—can be obtained in a more or less pure form.
4. The existence of a third substance, which effects the third physiological reaction of the pancreatic juice, is highly probable.
5. The specific substance, which corresponds to the first reaction, acts in neutral, alkaline, and acid solutions, but with different degrees of intensity.
6. The digestion of fibrine in natural and in artificial pancreatic juice, and in a solution of the isolated specific substance by which the second reaction is effected, has nothing in common with a process of putrefaction, but is entirely due to a physiological property of the juice, and more especially of the specific substance.
7. This last-named substance exerts its power of digesting fibrine only in neutral and alkaline solutions.
8. The quantity of free alkali contained in a solution of the pure specific substance has a great influence on digestion.
9. A surplus of free alkali, and the presence of free hydrochloric acid, prevent the digestion of fibrine in a solution of the specific substance.
10. The manner in which fibrine disappears in natural and in artificial pancreatic juice, and in solutions of the pure specific substance, is entirely opposite to the way in which it is digested in gastric juice.
11. The two specific substances, which correspond to the first and second reactions of the pancreatic juice, are not pure albuminous substances.
12. Both these substances belong to the collöid group.

THE FUNCTIONS AND SECRETIONS OF THE LIVER.

FLINT, AUSTIN.—*Experimental Researches into a new Excretory Function of the Liver, consisting in the removal of Cholestearine from the Blood, and its discharge from the Body in the form of Stercorine.* American Journal of Medical Science, Oct., 1862.

RITTER, T. F.—*Some researches on the Influence of Food upon the quantity of Bile daily secreted.* Marburg, 1862.

SCHIFF, M.—*On the relation which the Liver-circulation has to the Formation of Bile.* Schweizerische Zeitschrift für Heilkunde, vol. i, p. 1.

VAN DEEN, I.—*On the Formation of Sugar from Glycerine in the Animal Body.* Archiv für die holländischen Beiträge, iii, pp. 25—61.

HUPPERT, H.—*On the asserted Formation of Sugar from Glycerine.* Archiv der Heilkunde, iii, p. 289.

KÜTHE, F.—*On the Function of the Liver.* Heynsius's Studies in the Physiological Institution of Amsterdam, pp. 20—56.

HEYNSIUS, A.—*The source from whence the Sugar in the Liver is derived.* Stud. in Physiol. Inst. of Amst., pp. 57—98.

HOPPE.—*On the presence of the Biliary Acids in Jaundiced Urine, and on the formation of the Biliary Pigment.* Virchow's Archiv, vol. xxiv, p. 1.

JAFFE, MAX.—*On the Identity of Hæmatoidine and Bilifulvine.* Virchow's Archiv, vol. xxv, p. 414.

Very little is known, up to the present time, about the part which cholestearine plays in the animal system. But the facts of its being contained in large quantities in the nervous matter, of its occurring normally in the blood, of its being so frequently formed and accumulated in morbid processes in all parts of the body, together with the fact of its entirely resisting saponification, would seem to indicate that it represents a very peculiar and important stage in the metamorphosis of matter within the organism.

Mr. Austin Flint, of America, has recently made some interesting researches on the excretion of cholestearine by the liver, and we give here his own comprehensive summary:

1. Cholestearine exists in the bile, the blood, the nervous matter, the crystalline lens, and the meconium, but does not exist in the fæces in ordinary conditions. The quantity of cholestearine in the blood of the arm is from five to eight times more than the ordinary estimate.

2. Cholestearine is formed, in great part, if not entirely, in the substance of the nervous matter, where it exists in great abundance, from which it is taken up by the blood, and constitutes one of the most important of the effete or excrementitious products of the body. Its formation is constant, it always existing in the nervous matter and the circulating fluid.

3. Cholestearine is separated from the blood by the liver, appears as a constant element of the bile, and is discharged into the alimentary canal. The history of this substance in the circulating fluid and in the bile marks it as a product destined to be got rid of by the system, or an excretion. It pre-exists in the blood, subserves no useful purpose in the economy, is separated by the liver, and not manufactured there, and if this separation be interfered with accumulates in the system, producing blood poisoning.

4. The bile has two separate and distinct functions dependent on the presence of two elements of an entirely different character. It has a function connected with nutrition. This is dependent on the presence of

the glyco-cholate and tauro-cholate of soda, which do not pre-exist in the blood, subserve a useful purpose in the economy and are not discharged from it, are manufactured in the liver and peculiar to the bile, do not accumulate in the blood when the function of the liver is interfered with, and are, in short, products of *secretion*. But it has another function connected with depuration, which is dependent on the presence of cholestearine, which is an *excretion*. The flow of the bile is remittent, being much increased during the digestive act, but produced during the intervals of digestion for the purpose of separating the cholestearine from the blood, which is constantly receiving it.

5. The ordinary normal fæces do not contain cholestearine, but contain *stercorine* (formerly called seroline, from its being supposed to exist only in the serum of the blood), produced by a transformation of the cholestearine of the bile during the digestive act.

6. The change of cholestearine into stercorine does not take place when digestion is arrested or before this process commences, consequently stercorine is not found in the meconium or in the fæces of hibernating animals during their torpid condition. These matters contain cholestearine in large abundance, which also sometimes appears in the fæces of animals after a prolonged fast. Stercorine is the form in which cholestearine is discharged from the body.

7. The difference between the two varieties of jaundice with which we are familiar, the one characterised only by yellowness of the skin and comparatively innocuous, the other attended with very grave symptoms and almost invariably fatal, is dependent upon the obstruction of the bile in the one case and its suppression in the other. In the first instance the bile is confined in the excretory passages and its colouring matter is absorbed, while in the other the cholestearine is retained in the blood and acts as a poison.

8. There is a condition of the blood dependent upon the accumulation of cholestearine which I have called *cholestearæmia*. This only occurs when there is structural change in the liver, which incapacitates it from performing its excretory functions. It is characterised by symptoms of a grave character, referable to the brain, and dependent upon the poisonous effects of the retained cholestearine on this organ. It occurs with or without jaundice.

9. Cholestearæmia does not occur in every instance of structural disease of the liver. Enough of the liver must be destroyed to prevent the due elimination of the cholestearine. In cases in which the organ is but moderately affected the sound portion is able of performing the eliminative functions of the whole.

10. In cases of simple jaundice, when the fæces are decolorised and the bile is entirely shut off from the intestine, stercorine is not found in the evacuations; but in cases of jaundice with cholestearæmia the stercorine may be found, though always very much diminished in quantity, showing that there is an insufficiency in the separation of the cholestearine from the blood, though its excretion is not entirely suspended. After death but a small quantity of bile is found in the gall-bladder.

Ritter's researches were made on a dog of 13½ kilogrammes in weight.

The common bile-duct was divided, after a double ligature had been applied; and a fistulous opening was established between the skin and the gall-bladder. An accurately weighed sponge was affixed to the opening; and in this all secreted bile was caught. In the first series of experiments, which lasted seven days, the dog was daily fed on 2500 grammes of lean horseflesh, without any water. The weight of the animal increased during the time from 12,820 grammes to 14,000 grammes, and the average quantity of bile, which was daily secreted, amounted to 255·5 grammes. This gives (taking 13,629 grammes to be the mean weight of the dog) 18·75 grammes of bile for each kilogramme of the animal in twenty-four hours.

A second series of experiments, which lasted eight days, and in which the dog was fed on the same amount of lean horseflesh as above, yielded very nearly the same results.

The dog was then fed daily during five days on 2000 grammes of horseflesh. 220·15 grammes of bile were secreted daily on the average; which gives (for a mean weight of 14,520 grammes) 15·2 grammes of bile per diem to each kilogramme of the animal.

During five other days the dog received 1500 grammes per diem. The weight of its body maintained itself almost unaltered. 196·5 grammes of bile were daily secreted, which, for a mean weight of 14,544 grammes, gives 13·4 grammes of bile to each kilogramme in twenty-four hours.

The weight of the body decreased, whilst the dog was fed during four days with 1000 grammes of flesh only. 148·1 grammes of bile were daily secreted, or, for a mean weight of 14,175 grammes, 10·5 grammes for each kilogramme in twenty-four hours. Though the quantity of bile diminished absolutely with the decrease in the quantity of food, relatively it increased. In the first, third, fourth, and fifth series of experiments the quantities of food taken bore the following proportions—5, 4, 3, 2; but the quantities of bile for 1000 grammes of meat were as—10, 11, 13, 15.

The dog was fed at 7 a.m. with 450 grammes of half-dried horseflesh and 300 cubic centimètres of water. In the first hour after the meal 12·1 grammes of bile were secreted; then the quantity secreted during each hour decreased, till in the fifth hour 5·5 grammes only were produced. In the sixth hour a second maximum was attained, amounting to 7·8 grammes, from which time the quantity slowly diminished, till in the evening it was 6·3 grammes. This experiment was repeated several times with similar results.

Ritter attributes the rapid increase in the secretion of bile, shortly after food has been taken, partly to the water getting into the circulation, partly to the acceleration of the circulation, and partly to the pressure exerted by the full stomach upon the liver and bile-ducts. The less the amount of food which has been taken the sooner the second maximum in the secretion occurs. At the end of twenty-four hours after a rich meal the bile continued to be secreted in greater quantity, than it did at the same period after a poor meal.

To determine the influence which the addition of fat to the food exerts on the secretion of bile, the dog was fed during two days with 1000 grammes of meat and 125 grammes of fat per diem, then during one day with 1000 grammes of meat only, and again during two days with meat and fat. On each of the first two days 210 grammes of bile were secreted, on the third day only 170 grammes, and on each of the last two days again 210 grammes. But in other experiments, in which the dog was fed with larger quantities of meat, the addition of fat had not such marked influence.

Schiff endeavoured to make out by experiments from which kind of blood the bile is secreted. He first tried to cut off all arterial supply of blood to the liver. For this purpose he found it necessary to tie the cœliac axis and the inferior diaphragmatic artery. In performing this operation he entered at the side of the vertebral column, behind the peritoneum. The common bile-duct was also tied; and the gall-bladder was opened and emptied, and a tube was fixed to it. A little time after the operation bright-yellow bile began to flow from the tube. This contrasted in colour with the green bile which had been previously found in the gall-bladder, and was, in consequence, thought by Schiff to be newly secreted. An accurately weighed piece of sponge was attached to the opening of the tube, and the quantity of secreted bile thus determined. Schiff concludes that, after all supply of arterial blood has been cut off from the liver, it still continues to secrete bile, and that the quantity of bile thus secreted, compared with the normal quantity which Bidder and Schmidt have found for cats, does not show any diminution. These experiments were made on dogs and cats.

In the next series of experiments the venous supply was cut off. To effect this, Schiff isolated the artery from the lesser omentum, and tied the rest, the common bile-duct included, with a single ligature. The veins were also separately tied. Schiff does not think that the injury to the nerves, which were tied along with the vessels, could have had influence on the secretion of the bile in the short time during which the experiment lasted. A number of cats which had been operated upon in the above way died from within forty minutes to an hour and a half after the operation. Previous to their death they lay in a drowsy state. Not a drop of bile escaped from the tube inserted into their emptied gall-bladder. Similar experiments on rabbits were performed, and yielded the same results. To test the direct effect of the operation, all the parts of it were performed on a cat, with the exception of the tying of the ligature. The animal remained quite lively, and bright-yellow bile dropped from the tube. An hour and a half after the operation the ligature was drawn tight, and scarcely had twelve minutes elapsed when the cat fell down comatose. Death occurred at the end of fifty-five minutes, and no bile had been secreted during that time.

Schiff believes that it is anæmia of the liver which so rapidly causes coma and death, and suggests that the constituents of the bile thus retained in the blood may possibly act as a violent poison in such cases.

A further series of experiments were performed for the purpose of determining the effects of gradual closure of the portal vein. This closure is known to take place in human subjects without the secretion of bile being interrupted by it, and Orè has produced the same state artificially in animals.

In dogs and cats the portal vein was gradually constricted by means of a loop, till at the end of eight days it was entirely closed. The much-dilated superficial veins of the abdomen established a communication between the vena cava inferior and the vena mammaria. The kidneys were congested. The liver was partly congested and partly anæmic. Three different sets of enlarged veins were seen to enter the portal vein above the tied spot, that is, the portion communicating with the liver:—1. Small branches which came from the veins of the bile-ducts and of the ligament of the liver, and which communicated distinctly with gastric veins. 2. A portion of the veins of the gall-bladder, of its duct, and of the surrounding parts. 3. A venous trunk, coming from the vena cruralis and vena epigastrica, and ascending along the linea alba. This received small branches from the fundus of the bladder, from the external subcutaneous veins of the abdomen, and from the peritoneum, and entered the upper, unclosed end of the umbilical vein, and thus joined the portal vein. This important vein is normally very small. Schiff proposes to call it vena parumbilicalis. In cases of obliteration of the trunk of the portal vein this vein, as it enlarges, conveys blood to the branches of the former within the liver. Schiff, therefore, does not think that either the experiments of Orè, or the pathological observations on the secretion of bile after obliteration of the portal vein, are contradictory to the notion that the bile is formed from the blood conveyed to the liver by the portal vein, but neither does he believe that the blood of the portal vein is especially adapted for the formation of bile. He endeavoured to show by experiment that bile may be formed quite as well from arterial blood, if this is led through the channels of the portal vein.

For this purpose he diverted the blood from the renal artery of cats, through an india-rubber tube filled with tepid water, into the portal vein. In one instance he believes that the experiment succeeded, that is, that the flow of the blood from the artery into the vein continued for an hour and a quarter, and that seventeen grammes of bright-yellow bile found in the gall-bladder, which had been emptied previous to the experiment, were secreted during that time.

Pasteur discovered that, during the alcoholic fermentation of sugar-containing fluids, glycerine is always formed. Berthelet observed that glycerine, by being acted upon by nitrogenous substances, can be transformed into a kind of sugar capable of undergoing fermentation. Lehman argued for the probability of sugar being formed from the glycerine of neutral fats in the liver. Van Deen thinks that his experiments prove that all these propositions are true. In the first part of his researches he endeavours to show that sugar is formed from glycerine outside the organism. He states that, in a mixture of two parts of glycerine and ninety-eight parts of water, sugar is formed under the influence of a constant electric current. After several hours of this treatment the fluid reduces copper, crystals can be obtained from it which react on Pettenkofer's test, and the fermentation test also succeeds.

He further maintains that, when three parts of glycerine are treated with one part of concentrated nitric acid till no more nitrous acid escapes, sugar is formed.

Again he obtained sugar by letting the pancreatic substance act upon glycerine.

In another series of experiments he tries to prove that glycogene and sugar are formed from glycerine within the animal system. Dogs, after having been kept fasting for several days, had a quantity of glycerine given them; glycogene, and sometimes also sugar, were then found in their liver. From such experiments he concludes that glycerine is one of the chief sources, if not the chief source, from which glycogene and sugar are produced in the liver.

Huppert, who carefully repeated the most important experiments of Van Deen, especially those of the first series, does not think that the substance which the latter believes to be sugar is really sugar.

Küthe states that bilifulvine, which is formed from the brown cholephyrrine of fresh liver-cells, is found in greatest quantities in bile taken from dead bodies which have been kept for eight or ten days. If this stale bile is exposed during twenty-four hours to the air, the bilifulvine changes into biliverdine, which is identical with the chlorophyll of plants.

Küthe experimented upon dogs. He tied a ligature round their portal vein, and another round the common bile-duct, and established a fistulous opening into their gall-bladder. The animals survived the operation for two or three hours; sugar and bile were found in the liver. If the same operation was performed on a dog, with the exception of the mesenteric vein being tied instead of the portal vein, the animal survived four weeks. The rapid death after closure of the portal vein was, therefore, not directly produced by the injuries inflicted during the operation. In the latter experiment, in which the mesenteric vein had been tied, less bile than usual was secreted during the first few days, but after five or six days the quantity became again normal.

In another dog the cœliac axis was tied, and albumen with pepsine and some hydrochloric acid was injected into the œsophagus, in order to insure digestion. The dog survived thirty-two hours. No bile was formed during that time, nor did Küthe find any glycogene or sugar. The gall-bladder was filled with a fluid containing hæmatoidine. He concludes from this experiment that the blood of the hepatic artery furnishes the liver-cells with the necessary nutriment, thus enabling them to transform fat into biliary acids and hæmatoidine into bile-pigment. The substances from which bile is formed are conveyed to the liver by the portal vein.

Küthe corroborated also the observation of Bernard, namely, that when the orifice of the common bile-duct is wetted by an acid, bile begins to flow from it. An alkaline fluid has not that effect. It is possible that the acid gastric juice, or the chyme, promotes in this way the flow of bile during digestion.

A dog was daily fed with fifty cubic centimètres of albumen and 150 cubic centimètres of bouillon. A bougie was introduced into the urethra, for the purpose of conveniently emptying the bladder when required; 3·76 to 3·99 grammes of urea were passed in twenty-four hours; four grammes of glycocoll were then added to the daily food, after which the quantity of urea increased to 5·05 grammes; when six grammes of glycocoll were added, it increased to 6·8 grammes. Simultaneously with this increase of urea glycogene is probably formed, for sugar and urea may be theoretically regarded as products of the decomposition of glycocoll. The same dog, after having been kept without food for five days, was fed with five grammes of glycocoll dissolved in water, and was killed two and a half hours afterwards. The blood and the liver contained much sugar, the latter also a considerable quantity of glycogene.

If in the living body glycogene is formed from glycocoll, this latter substance may be derived from the glycocholic acid of bile which has been absorbed from the intestines, or from chondrine, which is formed from the albuminous substances of the liver. To decide this question Küthe opened the gall-bladder of a dog, and tied the common bile-duct. The dog was put on meat diet for eight days, and was then killed two and a half hours after a full meal. The liver did not contain any glycogene, and scarcely a trace of sugar. This experiment was repeated several times with the same result, and Küthe concludes therefrom that glycogene is not formed from the albuminous substances of the liver, but from the products of the decomposition of bile.

Still the quantity of glycocoll contained in the bile is probably not sufficient to produce all the glycogene of the liver. It might be theoretically assumed that a certain quantity of glycocoll is derived from the decomposition of taurine. A dog was therefore kept without food for eight days. On the ninth day it had administered to it four grammes of taurine and some water, and was killed two and a half hours afterwards. The liver was found to contain much glycogene and sugar. Some of the latter was also detected in blood taken from the carotid of the animal.

Küthe thinks that the formation of sugar is not the chief function of the liver; that it is, on the contrary, merely an after-effect of the secretion of bile, as the latter yields the substances from the decomposition of which glycogene and urea are produced. He adds that diabetes mellitus, as it occurs in the human subject, is dependent on an increased secretion of bile; the diabetes which is artificially produced in animals, on the other hand, on an increased transformation of glycogene into sugar.

Heynsius doubts whether the glycogene is entirely formed from glycocoll and taurine, and states that dogs, from which all bile is artificially removed before it gets into the intestines, have nevertheless always sugar in their liver.

The large quantity of sugar (·43 per cent.) which has been found in the liver of dogs, after no particle of bile had been allowed to enter the intestines for twelve days, proves that sugar is not exclusively formed from the absorbed constituents of bile. Heynsius thinks that the reason why Küthe did not find any glycogene in the liver of his dogs is to be found in the circumstance of his having only made use of the iodine reaction in many cases, and of having added too much glacial acetic acid in others. The latter test Heynsius believes to be the more susceptible. Two volumes of glacial acetic acid must be added to one volume of decoction of liver. The time best adapted for examination is from three to eight hours after a meal, but not earlier.

In dogs which have been kept fasting for nine or twelve days considerable quantities of glycogene are still found.

Quantitative valuations seem to favour the opinion that a part of the glycogene is derived from bile which has been absorbed from the intestines. The quantity of sugar in the liver diminishes considerably when no bile is allowed to pass into the intestines.

If glycocoll and taurine are given to dogs the quantity of sugar in the liver is found to increase, and by heating the parts new quantities of sugar are formed from glycogene. Sugar is also contained in the muscles after taurine has been taken.

Hoppe, on the ground of some recent investigations of his, maintains against Frerichs and Neukomm ('Year Book,' 1861, p. 86) the following propositions:

1. Biliary acids are found in the urine in cases of jaundice, and also when they have been previously injected into the blood-vessels.
2. The formation of biliary pigment occurs at such places and under such circumstances as forces us to exclude the notion that they are derived from the transformation of the biliary acids.
3. Biliary pigment has not yet been artificially obtained from the biliary acids.
4. It is highly probable, as Kuehne has already suggested, that cholopyrrhine is formed in the blood from the colouring matter of the latter, in all cases in which blood-corpuscles are dissolved by substances which do not destroy life in the quantity in which they are brought to act. Such a substance, for instance, as water.

Jaffe dried a cicatrix from the brain which contained numerous hæmatoidine crystals. He then moistened it with absolute alcohol, and made an extract with chloroform. After the chloroform had evaporated, beautiful crystals of hæmatoidine were left. These crystals were freed from their fat by ether, and were dissolved in carbonate of soda. Whilst the yellow solution was passing through the filter it turned green. The crystals, when treated under the microscope with nitric acid, exhibited the changes of colour which biliary pigment is known to undergo. Similar changes of colour were also observed to take place when some nitric acid was added to a solution of the crystals in chloroform. Jaffe thinks that this is sufficient proof that hæmatoidine and bilifulvin are identical substances.

CIRCULATION.

Heart, Blood-vessels, and Lymphatics.

Spring, A.—*On the Movements of the Heart, and especially on the Mechanism of the Auriculo-ventricular Valves.* Annales de la Société Medico-Chirurg. de Bruges, 1861, pp. 40—43.

Beau.—*On the Action of the Heart.* Gazette Médicale, 1861, No. 27.

HUFSCHMIDT, E., and MOLESCHOTT, JAC.—*On the Irritation of the Medulla Oblongata and Spinal Cord, in reference to its effect on the Frequency of the Pulse.* Moleschott's Unter. zur. Naturlh., vol. viii, part vi, 1862.

GOLZ.—*On the Causes of the Movements of the Heart.* Virchow's Archiv, vol. xxiii, p. 487, 1862.

COLIN, G.—*On the Pulsating and Rhythmical Movements of the Sinus of the Vena Cava. Superior in Mammalias.* Comptes Rendus, vol. lv, Sept. 22nd, 1862.

SCHIFF.—*On the Effect of Reflex Action upon the Vaso-motor Nerves.* Comptes Rendus, vol. lv, Sept. 29th, 1862.

SUCQUET.—*On the Circulation of the Blood in the Limbs and in the Head of the Human Subject.* Bull. de l'Acad., xxvi, pp. 825—853.

COLIN, G.—*On the Sensibility of the Visceral Arteries.* Comptes Rendus, vol. lv, Sept. 1st, 1862.

SCHWEIGGER-SEIDEL.—*On the Passage of Solid Substances from the Blood into the Lymphatic Vessels.* Studien d. physiol. Inst. zu Breslau, 1861, p. 57.

TEICHMANN, L.—*The Lymphatic System from an Anatomical Point of View.* Leipzig, 1861.

Spring maintains that the action of the heart ought to be divided into three chief periods—a præsystole, a systole, and a diastole. He states that Vesal already entertained that view. The præsystole consists in the dilatation of the ventricles, the lowering of the atrio-ventricular valves, and the contraction of the walls of the auricles. During this action the blood is sucked up into the ventricles. The change of position which the valves undergo produce a peculiar, third sound of the heart, which has not been noticed hitherto, and which may be called the præsystolic sound. The systole, by which the blood is driven into the arteries, follows immediately upon the præsystole, beginning at the base and extending to the apex of the ventricles. During this period the atrio-ventricular valves ascend and shut up the opening, producing the systolic sound of the heart. The systole ceases suddenly. The diastole which then follows forms a period of rest, in which the walls of the ventricles remain in contact with each other. The diastolic sound of the heart is heard during this period.

Beau is of opinion that the ventricles are empty during the second period of the heart's action. The true diastole and systole follow each other so rapidly, that the period which encloses both has been generally regarded as merely the period of the contraction of the ventricles. Beau therefore distinguishes a period of diastole-systole, in which the ventricles are at first dilated by the blood which enters into them, and then contracted by the action of the muscular fibres; and a second period—that of rest.

Hufschmidt and Moleschott performed experiments on rabbits, with a view of determining the influence of irritation of the medulla oblongata and of the spinal cord on the frequency of the pulse. For the purpose of irritating the medulla oblongata, a gimlet with an ivory handle was forced through the occipital bone, and a bodkin passed in between the atlas and the skull. The spinal cord was irritated by means of two bodkins which were introduced into its substance—the one high up, the other low down. The results were as follows:—1. Slight electric irritation of the medulla oblongata augments the frequency of the heart's action. 2. Strong electric irritation may diminish the frequency of the heart's action. 3. Very powerful irritation puts a stop to the heart's action. 4. If this powerful irritation be suspended, the normal action of the heart may slowly restore itself, and it is then again possible to increase the frequency of the pulse by slight irritation. 5. Powerful mechanical irritation of the medulla oblongata diminishes the frequency of the heart's action. 6. By means of appropriate irritation the suspended action of the heart may be reincited. 7. When both sympathetic nerves are divided, slight irritation of the medulla oblongata produces, nevertheless, an increase in the frequency of the heart's action. 8. When both sympathetic and both pneumogastric nerves are divided, no increase in the frequency of the heart's action is produced by irritation of the medulla oblongata. 9. Neither is any increase produced in that way when the pneumogastric nerves only are divided. 10. It follows that the irritation is conducted to the heart through the pneumogastric, and not through the sympathetic, nerves. 11. Slight irritation of the *spinal cord* increases, powerful irritation diminishes, the frequency of the heart's action. 12. The effect of the irritation was manifest when the pneumogastric nerves only were preserved, but also when the sympathetic nerves only were preserved. 13. The effect ceased when both pairs of nerves were divided. 14. The irritation of the spinal cord is therefore transmitted to the heart through the sympathetic as well as through the pneumogastric nerves; through the former directly, though the latter, most likely, by reflex action.

Golz's researches on the action of the heart have induced him to adopt the following theories:—1. The pulsating parts of the frog's heart constitute together a system of small, independent apparatus, each of which is possessed of a ganglionic central organ. 2. These small nervous centres are capable of being incited to action by various stimulants, and this action manifests itself, according to its intensity, in more or less protracted contractions of the muscles, governed by the stimulated centre. 3. Blood which contains a certain amount of gas is to be reckoned among the stimulants. 4. A sudden contraction of any part of the heart acts slightly stimulatingly upon the neighbouring parts. Thus, when a stimulated part contracts, the contraction spreads like a peristaltic movement, according to laws which depend upon the connection of the nerves with the ganglions. 5. All parts of the heart are not equally stimulated by the blood. The nearer to the venæ cavæ a part is situated, the greater is its irritability. 6. In the normal contraction of the heart the most irritable part—that is, the neighbourhood of the venæ cavæ—commences the systole; and the other parts, by means of their nervous connection with that spot, continue the contraction. 7. The reason why the heart acts rhythmically may, perhaps, be found in the following circumstance. As soon, namely, as the stimulating influence of the blood is powerful enough to act upon the ganglions, the systole at once begins, and, by emptying the heart, removes from it the stimulating cause.

Colin's observations were made on horses, donkeys, oxen, dogs and cats. He finds that in mammals, while the venæ cavæ exhibit, near their termination in the auricle, a very manifest rhythmical action, which takes place independently of the movements of the heart, in the superior vena cava these rhythmical actions are very powerful and extended, but in the inferior vein they are weak and limited. It is especially in large animals that the vena cava superior is seen to dilate, near its junction with the auricle, so as to form a vast sinus. Its fibres do not extend into the auricle. The rhythmical movements of the vein are usually synchronous with those of the auricle. But when the heart acts irregularly the pulsations of the sinus become isochronous with those of the auricle. These venous pulsations do not depend on the impulses of the heart, nor on the contractions of the auricle, nor on the reflux of blood. The dilatations take place when a ligature is tied round the vein at the point where it is inserted into the auricle. The vein is but slightly contracted during the systole. Colin thinks that the purpose of these rhythmical contractions is to facilitate and to regulate the afflux of blood to the heart, and that this action is of special value to quadrupeds during the time in which they bend their heads to the ground.

Schiff thinks that the following experiment proves conclusively that active dilatation is a function possessed by the blood-vessels. He chooses a rabbit in which the central artery of the ear is well seen and moderately dilated, and gently tickles the skin which covers the artery in an extent of two or three lines. Almost instantaneously the artery begins to dilate in the part thus touched. No contraction whatever precedes this dilatation, and just above and below the part acted upon the vessel maintains its former size. The result was the same in cases in which the sympathetic nerve of the same side had been previously divided, or the superior cervical ganglion removed. The conclusions which Schiff draws from these observations are—1st. That vascular dilatation following upon irritation is not always preceded by constriction of the vessel; that, therefore, dilatation of vessels may take place without its being the effect of exhaustion of their circular fibres. 2nd. That the dilatation in the above experiment is not the mechanical result of mere afflux of blood to the irritated part; for if this were the case, the dilatation would not be so well restricted to the irritated spot, but would be most developed just below, in the more central part. 3rd. That the dilatation spoken of is not the mechanical effect of a contraction produced by reflex action in a more peripheral part or in the venous system, for in this case also the dilatation would not be restricted to the irritated spot. 4th. That the sympathetic nerve does not contain any vascular nerves which preside over this kind of active dilatation. The dilatation, however, does not take place independently of nerves, for if all the sensory nerves of the ear are divided the same amount of irritation does not produce it. But in rubbing the part with a little more force the dilatation again takes place. If a still greater force is used in rubbing, the vessel will not dilate, but will firmly contract.

All this shows that dilatation occurs under the influence of sensory nerves. Another experiment proves that it also takes place under the direct influence of motor nerves. If the sympathetic be divided in the neck of a dog, and the animal kept at rest in the laboratory, the ear and the head of the operated side will always be found warmer than the other. If, then, the dog be taken into the open air, and somewhat excited by exercise, the temperature of the entire body will rise, and both ears will partake in the general change. Their vessels dilate slightly without any previous contraction when the animal has got out of breath; the arteries and veins of the healthy ear are found more dilated than those on the other side, and the head on that side has got much warmer (sometimes 3° C.) than the opposite half on the other side. After some rest in a cool place the parts will return to their primary state. Schiff thinks that the only explanation consistent with this fact is that, in dividing the sympathetic nerve, those agents are paralysed which produce the dilatation on the healthy side.

According to Sucquet's investigations, we have to distinguish a double communication of the arteries with the veins, forming two different kinds of circulation. The first, the capillary circulation, called by Sucquet *circulatio nutritiva;* the second, formed by direct communications of the arteries with the veins, without intervening capillaries, and named by him *circulatio derivativa.* The smallest connecting arteries of this latter circulation are known to possess—(*a*) Organic muscles, which are easily seen, and which exist in abundance. (*b*) Contractility, and this in such a degree as will admit of vessels being entirely shut by it. (*c*) Vaso-motor nerves, of which a portion governs the contraction and another the dilatation of these vessels. Thus, he thinks, it becomes intelligible that, as more or less blood enters the veins by these channels, the superficial veins of the head and of the limbs are seen more or less distended by blood. The deep, nutritive circulation remains always unchanged in itself, whilst the derivative circulation varies according to the quantity of the circulating blood, according to the energy and frequency of the heart's action, and according to the action of the vaso-motor nerves. The committee appointed to give a report on the researches of Sucquet adopted the above views.

Colin has made numerous experiments on the sensibility of arteries, and finds that the arteries belonging to the organs of animal life are almost insensible, but that those belonging to the organs of organic life are, on the contrary, highly sensitive. When a ligature is passed round a vessel and drawn tight, the animal gives signs of great pain if the vessel is a visceral one. The sensibility would seem to be extrinsic, for it is to all appearance connected with the cellular tissue which surrounds the artery. Colin thinks that there exists some relation between the sensibility and the contractility of the vessels.

Schweigger-Seidel and Teichmann have both satisfied themselves, by means of injections, that the walls of the lymphatic vessels are impermeable even to the finest pulverised substances, and that there exists no direct passage from the unimpaired blood-vessels into the unbroken lymphatics.

BLOOD, LYMPH, AND CHYLE.

SCHMIDT, ALEXANDER.—*On Fibrine, and the causes of its Coagulation.* Arch. f. Anat. Physiol., &c., pp. 545—587, and pp. 675—721, 1861.

SCHÖFFER, A.—*On the Carbonic Acid of the Blood, and its elimination by the Lungs.* Zeits. für rat. Med., 3rd series, vol. xi, pp. 89—119, 1861.

WEISS, W.—*Experimental Researches on the Lymph current.* Virchow's Archiv, vol. xxii, p. 526.

SCHMIDT, C.—*On the Chemical Composition and Formation of Lymph and Chyle.* Mélanges physiques et chim., tirés du Bull. de l'Acad. de St. Petersb., iv, pp. 671—691, 1861.

The researches of Alex. Schmidt throw a new light upon one of the most important subjects in physiology. It was known that certain circumstances exert a retarding influence on the coagulation of the blood. Brücke had shown, for instance, that coagulation does not take place readily as long as the blood remains in contact with the walls of the blood-vessels. It was also proved by others that ammonia or carbonic acid prevents, more or less, the blood from coagulating. But all this touched merely upon the negative side of the question; Schmidt, on the other hand, endeavoured to discover the active agents in the process, and sought for them in the coagulating substances. It occurred to him that all fluids which coagulate spontaneously, such as blood, chyle, lymph, and pus, contain cells, and that it might be the cells which impart the coagulating influence in the process of coagulation; that chyle and lymph, which fluids do not coagulate spontaneously before they have passed through the lymphatic glands (that is, before they have taken up a number of cells), might, nevertheless, even then contain the principle capable of coagulating when brought into relation with cells; and that it might be simply the addition of these cells during the passage of the fluids through the glands which gives the fluids the property of spontaneous coagulation; and that if so, then an artificial admixture of cells with pure lymph and chyle would produce the same effect. This Schmidt found to be actually the case, and he moreover made out that the differences observed in fibrinous coagula do not depend on a variety of fibrinous substances, but on the differences of the cells which produce the coagulation.

The chyle which had been taken from the thoracic duct of a horse was divided into two portions. To the one was added a small quantity of defibrinated blood. The time was then marked which each portion took to coagulate, and it was found that the portion to which the blood had been added got quite firm in two to three minutes, the other portion not before twenty-five minutes. This experiment was repeated several times with the same result, and it was also observed that the coagula which formed on the addition of blood were much firmer than the others.

Schmidt also examined a great number of effusions in reference to their coagulating properties—altogether ninety-three cases. He examined fluids from the tunica vaginalis, the pericardium, the pleura, the peritoneum, the ventricles of the brain, &c. Most of these effusions coagulated when to their clear fluid a small quantity of defibrinated blood was added. The coagulation began in the neighbourhood of the blood-corpuscles, and extended gradually throughout the whole fluid. This fact might suggest that the blood-corpuscles acted merely as so many starting-points for a kind of crystallisation. Schmidt therefore introduced into the coagulable fluid finely pulverised, insoluble substances, but found that no effect similar to the above was produced by them. The action of the active principle is not analogous to that of ferments, for it is used up in the process. It combines chemically with the coagulable substance. Having through all this arrived at the idea that the active principle was contained in the blood-corpuscles, Schmidt endeavoured to obtain the contents of the latter as pure as possible, in the form of hæmato-crystalline. He extracted it from the blood of guinea-pigs, and found that albuminous fluids were rapidly coagulated by it. Some hæmato-crystalline was dissolved in serum taken from a hydrocele, and effected coagulation in from two to four minutes. A solution of hæmatoidine will also produce coagulation, and blood-serum possesses always this property in a more or less marked degree, according to the amount of blood-corpuscle-contents dissolved in it. What has been here stated of blood applies also to lymph, chyle, and pus; and the corpuscles of these fluids bear the same relation to their respective serums as blood-corpuscles to blood-serum.

Schmidt calls those substances which have the power of inducing certain albuminous fluids to coagulate *fibrinoplastic*. The fluids which contain the coagulable principle in solution he names *fibrinogenous*. He found that many animal substances possess fibrinoplastic properties, for instance, the cornea, the watery extract of the crystalline lens, the humours of the eye, saliva, &c. This property he further showed to depend on a substance which is identical with hæmato-globuline; when, for example, fibrinoplastic fluids are treated with oxygen and with carbonic acid (in the same manner as blood is treated for the purpose of obtaining crystals), a sediment of white, amorphous granules is formed, which possesses all the properties of globuline, and which produces rapid coagulation when dissolved in any fibrinogenous fluid.

The gases of the blood exert, as is well known, a powerful influence on its coagulation. It is, therefore, a matter of importance to determine the exact nature of this influence. Schmidt found that the presence of carbonic acid always retarded coagulation. This retarding influence is but very slight when exerted on fresh blood. Fresh blood saturated with carbonic acid took only one quarter of a minute longer to coagulate. The coagulum, however, was much less firm than usual. The coagulation of chyle, which is much less fibrinogenous than blood, was greatly retarded by carbonic acid. Schmidt thinks that the slight differences in time which arterial and venous blood show in reference to coagulation may be accounted for by the different amounts of carbonic acid which they respectively contain. Oxygen and atmospheric air have no direct promoting influence on coagulation. But when much carbonic acid is contained in the blood, oxygen promotes coagulation by displacing that gas. Blood which *in vacuo* has been freed of all its gases does not lose its fibrinoplastic power. A portion of chyle was mixed with an equal volume of water, and a current of oxygen was transmitted through the mixture for two hours. Coagulation began, and was completed at the same time as in another portion of chyle through which no oxygen was passed. Contact with animal tissues retards coagulation.

Numerous practical inferences may be drawn from these interesting experiments. To the pathologist they suggest that the coagulation of effusions which occurs within the cavities of the living body is most likely due to the admixture of the contents of blood-corpuscles during the process of inflammation. The physiologist may imagine that this property of coagulating, under the influence of cells, which belongs to the entire nutritive fluid of the body, is, perhaps, the foundation upon which all tissues are built up.

In comparing the quantity of carbonic acid contained in the blood with that contained in the urine, Schöffer found that, on the average, 3·79% by volume of carbonic acid can be pumped out of the acid urine of a dog, and that this quantity does not bear any determinable proportion to the carbonic acid of the blood. The quantity of carbonic acid in the blood of dogs increases with the amount of phosphoric acid which the latter contains; but this does not take place in any exact proportion. The greatest part of the carbonic acid of the blood is probably attached to phosphate of soda; only a small portion is simply diffused in it. Blood of dogs was obtained almost simultaneously from the carotid artery and from the right side of the heart; 100 volumes of the arterial blood contained 5·5 volumes more oxygen and 4·6 volumes less carbonic acid than the same quantity of the venous blood. The quantity of fixed carbonic acid is much greater in the venous than in the arterial blood. The lungs seem, therefore, to exert an influence as yet unknown on the elimination of carbonic acid from the body. Blood and blood-serum differ greatly in their amount of fixed carbonic acid. The latter contains a much larger quantity than the former. 100 volumes of blood yielded to the pump 41·48 volumes of gases. Among these were 24·62 volumes of carbonic acid; besides which, it contained 1·59 fixed carbonic acid. An equal quantity of serum contained 11·28 volumes of gases, of which 10·20 volumes were carbonic acid; the quantity of fixed carbonic acid was 23·77 volumes. This observation suggested that the blood-corpuscles have the power of setting carbonic acid free. To determine this, serum was examined before and after its admixture with blood. It was found that the quantity of fixed carbonic acid contained in the pure blood was ·81%; in the pure serum, 16·65%; and in the mixture of both, only 1·77%. These results prove strikingly the correctness of the above suggestion. The gases are more easily pumped out of the arterial than of the venous blood, and more easily out of this than out of serum. These investigations were made with great care, and the most exact methods were employed.

The experiments of Weiss were performed on foals and dogs, which had been made insensible by means of opium or chloroform. He ascertained, with the aid of the manometer, the amount of pressure which was exerted by the lymph-current upon the walls of the right truncus trachealis. It was found to measure in foals from 10 to 20 millimètres of a solution of soda of 1·080 specific gravity; in dogs, from 5 to 20 millimètres. Calculation showed that the average velocity of the lymph-current in the truncus trachealis of foals was 4 millimètres in the second. The quantity of lymph which passed by with the current was ·65 gramme in the minute, which quantity amounts to one fifth of the weight of the corresponding part of the body in twenty-four hours.

Three series of experiments, which were performed on different foals for the purpose of determining the quantity of lymph which passed through the upper end of their thoracic duct, yielded the following results:—84·2 grammes for the first foal, 97·8 grammes for the second, and 185·5 for the third, as the average quantity in twenty-four hours for one kilogramme of their weight.

After Weiss had accomplished his experiments, large quantities of lymph and chyle were still obtained, which led C. Schmidt to subject them to careful chemical examination.

Lymph was taken from the lymphatic trunk of the right side of the neck of a foal which had been well fed with hay.—The animal weighed 98·3 kilogrammes; head and neck alone, 13·9 kilogrammes. In 100 minutes 69·864 grammes of lymph were procured, which is for one kilogramme in twenty-four hours 10·23 grammes; 1 kilogramme, head and neck of the same side, in twenty-four hours, 144·8 grammes.

It was found by chemical analysis to aontain—

	1000 parts contains		1000 parts serum.	1000 parts coagulum.
	989·48 serum.	10·52 coagulum		
Water	954·56	9·37	964·77	890·68
Dried substance	34·92	1·15	35·23	109·32
Fibrine, albumen, fats, and fatty acids	23·31	1·05	23·56	100·4
Other organic substances	4·48		4·53	—
Minerals	7·12	0·10	7·22	9·2
Chloride of soda	5·36	0·07	5·42	5·8
Soda	1·47	0·02	1·49	2·5
Potass	0·03	—	0·03	
Sulphuric acid	0·03	—	0·03	
Phosphoric acid fixed to alkali	0·02	—	0·02	—
Phosphate of lime, phosphate of magnesia	0·21	0·01	0·21	0·9

Two examinations were also made of chyle procured from the thoracic ducts of foals. By comparing the results, it was found that the contents of the thoracic duct, and those of the large lymphatic trunk of the right side of the neck, differed from each other quantitatively and qualitatively scarcely otherwise than by a small quantity of iron contained in the former. It was desirable to examine also some blood of a foal under the same circumstances. The density of the blood, the quantity of dry substance which it contained, and the quantity of its other constituents, amounted to about double as much as were found in the lymph and chyle.

Placed under the same circumstances, animals of a similar constitution yield from the right lymphatic trunk of the neck 1$^0/_0$ of their weight in lymph—14$^0/_0$ of the weight of half the head and neck. In twenty-four hours the quantity of chyle and lymph which flows into the general circulation is as large as the whole amount of blood in circulation at any given time, containing as large an amount of salts as blood, but only half the amount of organic matter.

RESPIRATION.

Lungs and skin.

TRAUBE, M.—*On the relation of Respiration to Muscular Activity and on the Signification of Respiration in general.* Virchow's Archiv, vol. xxi, 1861, pp. 386—414.

TRAUBE.—*On the Physiology of Respiration.* Med. Centr. Ztg., xxxi, 38, 39, 1862.

EDENHUIZEN.—*Contributions to the Physiology of the Skin.* Nachrichten der G. A. Universitat zu Göttingen, p. 288, 1861.

Traube distinguishes three important functions of respiration:—1. The formation of cells.—This is the most general function of respiration; for all organized beings, vegetables as well as animals, require oxygen for the building up of their cellular structure. This function is manifested in its purest form in the vegetable kingdom, in which oxygen is required solely for that purpose. 2. Muscular activity.—This respiratory function belongs to all animals, warm-blooded as well as cold-blooded; and in the latter it constitutes the chief function of respiration. 3. Production of heat.—Though this function requires, on the average, the largest amount of oxygen; it is only in the warm-blooded animals that it assumes vital importance.

Traube put animals under the influence of narcotics, and made them inhale various gases by means of artificial respiration. He arrives at the following conclusions:—1. The phenomena of dyspnœa in mammalia are not due to a decrease in the amount of oxygen taken into the system, but to a decrease in the elimination of carbonic acid which is constantly forming within the system. 2. The agent which incites in- and expiration, by stimulating the nervous centre of respiration contained in the medulla oblongata, is carbonic acid. 3. The phenomena of dyspnœa produced by the accumulation of carbonic acid within the body are the more energetic the larger the quantity of oxygen is which is contained in the blood at the same time. 4. The carbonic acid acts as a stimulant on a portion of the terminations of the pneumogastric nerves in the lungs, and promotes thereby the process of inspiration.

Edenhuizen performed experiments on rabbits, sheep, a dog, and other animals, for the purpose of ascertaining what changes take place in the organism when the action of the skin is suppressed. In some cases the entire skin, in others a part of it, was covered over with glue, oil-colour, varnish, gum, tar, &c. The animals the skin of which was entirely covered over died generally very soon. The symptoms under which death took place were the same as described by other observers, especially by Valentin. Albumen was found in the urine whilst the animals were still alive. The period in which death occurred was, on the whole, proportionate to the size of the animal, larger animals surviving the operation the longest. This circumstance is probably due to the proportion which the surface bears to the entire bulk of the body.

The influence of partial suppression was tested on rabbits. Open places were left, of various sizes, from four cubic centimètres to half the surface. Generally, the smaller the open space left, the sooner the animals died. An animal in which four cubic centimètres were left free died at the end of ten hours; another, with 2·16 cubic centimètres free surface, at the end of ninety hours. Death occurred with the same symptoms as when the entire animal was covered over. When only 100 to 200 cubic centimètres of the surface were covered, that is, one eighth to one twelfth of it, no marked symptoms occurred; but when one eighth to one sixth was covered, the animals died of the effects, and albumen was found in the urine in every case. The post-mortem appearances were:—congestion of the internal organs, effusion into the serous cavities and into the subcutaneous tissues, and ecchymosis in the mucous membrane of the stomach. Edenhuizen also discovered in the subcutaneous areolar tissue of the covered portions of skin and in the peritoneum of all animals which had died from the effects of the operation numerous triplephosphate crystals and lymph-corpuscles. In the fresh blood of a rabbit which had died from the suppression of the action of the skin a large amount of ammonia was detected by means of hydrochloric acid. Edenhuizen concludes from these facts that in the healthy state a small quantity of nitrogen in the gaseous form is given off by the skin, and that, this function being suppressed, the nitrogen is retained in the blood in the form of ammonia, which is then deposited as triplephosphate in the above-mentioned places. The nitrogenous compound retained in blood acts as an irritant to the nervous system, producing rigors, palsies, cramps, and tetanic attacks.

ANIMAL HEAT.

WALTHER, A.—*Contributions towards the Knowledge of Animal Heat.* Virchow's Arch., vol. xxv, p. 519.

Walther made some interesting observations on the influence of refrigeration on animal life. He states that a rabbit, the temperature of which has been lowered in a cooling apparatus to + 18° or + 20° C., when placed in a medium not warmer than its own body, does not regain its normal temperature of about + 39°. (This fact has been already observed by Bernard.) The animals, when taken out of the cooling apparatus, are unable to sustain themselves on their feet. They lie quiet on their side, and do not make any locomotory movements; but they exhibit phenomena of voluntary motion, reflex motion, and sensibility. The heart beats only from 16 to 20 times in the minute. In some cases respiration is so slight that no movement of the thorax can be seen; in others it is very hurried and superficial. The eyes of the animal are wide open. The lowest temperature at which Walther still observed motion, sensibility, reflex action, and will, was + 9° C. Animals kept at a temperature of + 20° die after some time, and animals which have been previously cooled to + 18°, do not recover when artificially warmed to + 29° and then left to themselves. Muscular contraction may produce an increase of the normal temperature of a rabbit of from 2° to 4°, but no increase of temperature takes place when the animal has been cooled to + 20°. In rabbits which have died, or which have been killed, in a state of refrigeration, the lungs were always found much congested and œdematous; thin serum was also present in the bronchial tubes. The same appearances were also found in animals which, after having recovered their normal temperature, nevertheless died. In these, serum was also contained in the pleural cavities. Refrigerated animals can be made to regain their normal temperature in two different ways:—First, by warming them artificially, till their temperature has got normal; this takes from two to three hours in a medium of 40°. Secondly, the normal temperature can be restored by means of artificial respiration. A rabbit cooled to + 18°, and placed in air of + 10° or 12°, will recover its warmth under the influence of artificial respiration. Even in this colder atmosphere Walther thinks that reanimation of persons, seemingly dead from the influence of cold, ought not to be effected by slow warming as is the usual practice, but by a more rapid process. Some animals which have recovered their normal temperature after refrigeration are in the first few days in a state of fever, their temperature being 42°. Some also suffer from violent catarrh of the lungs, the nose, and the eyes.

URINE.

KAUPP, W.—*Contributions to the Uro-physiology within the Bladder.* Tubingen, 1860; and Canst. Jahresb. für 1861, vol. i, p. 135.

HERRMANN, M.—*On the Influence of the Pressure of the Blood upon the Secretion of Urine.* Wiener Sitzungsberichte, 1861, xlv, p. 317.

Kaupp proposed to himself the following question:—Are any constituents of the urine absorbed during its stay in the bladder? To answer this, he compared urine which had been passed hourly for twelve hours with such as had been passed only once at the end of twelve hours. He found, after several trials, that the average surplus in favour of the former amounted to

87·3 cub. cent.	Urine	0·933 grmm.	Urea
0·786 grmm.	Chloride of sodium	0·173 „	Phosphoric acid
0·061 „	Sulphuric acid	2·116 „	Firm constituents

The decrease for one hour is, therefore, as follows :

7·2 cub. cent.	Urine	0·077 grmm.	Urea
0·065 grmm.	Chloride of sodium	0·014 „	Phosphoric acid
0·005 „	Sulphuric acid	0·176 „	Firm constituents

This decrease can only be accounted for by absorption, which the constituents of the urine undergo during their prolonged stay in the bladder.

According to Herrmann's researches, the small arteries which enter the capsules of the kidney take a share in the secretion of the urine. After the renal artery had been tied, Hermann observed, in three cases out of eighteen, that the urine was, nevertheless, secreted uninterruptedly, and even with greater rapidity than previous to the operation. The urine which was secreted after the circulation had been interrupted for several hours contained albumen, sometimes in large quantities.

Herrmann performed also experiments on the partial closure of the artery, that is, on the diminution of the pressure of blood within the kidney. He concludes from these experiments that it is not the diminished rapidity of the current of blood, but the diminished pressure, which causes a proportionate diminution in the secretion of urine; and as secretion ceases altogether when a certain minimum of pressure is attained, so also, when a certain maximum of pressure is surpassed, does the urine assume abnormal qualities.

Herrmann believes that the urine secreted in the Malpighian bodies is very concentrated, and that during its passage through the urinary tubes urea is taken up again into the blood. He supports this view by stating that only during very slow secretion of a concentrated urine it was found that its amount of urea was diminished, that this diminution grew larger when pressure was exerted against the outflow of urine, and that the urea disappeared entirely when, by means of a ligature round the ureter, the urine was retained in the kidney.

When the secretion of urine was retarded by pressure impeding its outflow, it was found to contain creatine in considerable quantity.

METAMORPHOSIS OF MATTER.

Pettenkofer, M., and Voit, C.—*On Respiration.* Ann. der Chem. u. Pharm., Suppl., Band ii, pp. 1—70, 1862.

Ranke, Joh.—*Elimination of Carbon and Nitrogen in the Human Subject during Rest.* Arch. für Anat., Physiol., &c., July, 1862.

Pettenkofer's experiments, which were made with the aid of his new respiratory apparatus, are very satisfactory. A diagram and description of the apparatus are given in the 'Lancet,' November 1st, 1862, p. 473.

In testing the accuracy with which the quantity of carbonic acid contained in his apparatus could be ascertained, he found that the greatest error amounted to 1 per cent.; the average was not more than ·3 per cent. Test experiments were also made in reference to oxygen, and were equally satisfactory. The testing of water was at first not quite so accurate, which circumstance was due to the hygroscopic properties of the walls of the apparatus; but the error grew less in each succeeding experiment.

A dog, weighing 33·3 at the beginning of the experiment, was put into the apparatus immediately after having been fed, and was left there each time for twenty-four hours.

The elimination of nitrogen is not proportionate to that of carbonic acid. Whilst the quantities of urea varied from 8·3 to 108·8 grammes, those of carbonic acid varied only from 289·4 to 840·4 grammes. As regards carbonic acid, the conclusion may be drawn that in the same subject the quantity of heat produced by the process of decomposition may be at one time three times greater than at another.

During starvation both the amount of urea and the amount of carbonic acid decrease: till at last only half the normal quantity of carbonic acid is eliminated. In estimating the quantity of substance used up during starvation in twenty-four hours by the urea secreted in that time, 200 grammes of fat are found to be consumed. Whilst the dog was fed on 400 grammes of meat and 250 grammes of starch or sugar, all nitrogen and carbon taken with the food were contained in the excrements; but if the dog was fed with the same quantity of meat and with 200 grammes of fat, all the nitrogen was eliminated, but not all the carbon; which shows that in the latter case fat was added to the bulk of the body.

In taking 400 grammes of meat and 200 grammes of glue, more carbon was eliminated by the lungs and skin than the food contained; but, on the other hand, not all the nitrogen was found in the urine; which indicates that in this case a quantity of non-nitrogenous substances belonging to the tissues of the body (probably fat) was consumed.

The carbon of 800 grammes of bread was entirely eliminated in twenty-four hours.

When 350 grammes of fat were given, the tissues of the animal yielded to excretion a nitrogenous substance; but, nevertheless, fat was formed in the body, for the carbon of the food was not entirely eliminated.

The dog being fed on 200 grammes of glue, a loss of nitrogen was observed, and more carbonic acid was eliminated than was contained in the glue.

If a large quantity of meat was taken, the entire quantity of carbon contained in it was not found in the expired air, but, on the other hand, the whole amount of the nitrogen reappeared in the urine. Fat was most likely formed in this case.

In the first experiment, after the dog had taken daily 1500 grammes of meat for sixteen days, 63·7 per cent. of the inhaled oxygen reappeared in the carbonic acid. The dog, having then been kept fasting for ten days, eliminated at the end of that time much less carbonic acid than before, but more oxygen with it; whilst the dog was fed on meat and starch, the quantity of exhaled oxygen kept increasing, till at last 50 per cent. more oxygen was contained in the eliminated carbonic acid than had been inhaled. This circumstance could only be accounted for by assuming that carbonic acid had been formed from the starch and sugar. If this was actually the case, the hydrogen must certainly have been liberated in sufficient quantity to be found in the atmosphere of the apparatus. An examination of that atmosphere proved the correctness of this view.

Similar experiments to those which Bischoff and Voit performed on dogs were made by Ranke upon himself, for the purpose of determining the quantities of carbon and nitrogen which were eliminated from his body in a state of rest. First, he endeavoured to make out whether it were possible, by any diet, so to regulate the elimination of matter from the body, that in twenty-four hours exactly so much nitrogen should be given off with the excrements as had been taken in with the food during that time. This equilibrium takes place when not only the consumption of nitrogen, but also the consumption of carbon, is entirely covered during the time of the experiment.

In Pettenkofer's apparatus the quantity of expired carbon, as determined on a day in which the above-mentioned equilibrium was established, amounted to 207 grammes in twenty-four hours.

To attain the equilibrium between food and elimination, it is not requisite that there should exist an invariable proportion between the nitrogen and carbon of the food.

Insufficient food may contain too little carbon or too little nitrogen. In this case more nitrogen is eliminated than has been taken. An addition of fat to the food diminishes the elimination of nitrogen.

Some experiments were made for the purpose of determining the changes which take place when the diet is varied.

First, the influence of *fasting* was tested. The experiments were commenced twenty-four hours after the last meal had been taken. They were continued for twenty-four hours, during which time the experimenter kept himself as quiet as possible. It was found that, for an average bodily weight of 71·25 kilogrammes, 9·01 grammes nitrogen and 184·85 grammes carbon, on the average, were eliminated; or, for 1 kilogramme, ·126 gramme nitrogen and 2·59 grammes carbon. The average proportion between the eliminated nitrogen and carbon during fasting was 1 : 20·5. The elimination of nitrogen decreased more rapidly, as compared with the elimination of carbon, during fasting, than when mixed diet was taken.

Meat diet.—In several experiments large quantities of meat were taken; nevertheless, a decrease in the weight of the body was each time observed under the use of this unmixed diet. The quantity of meat which can be digested is not sufficient to produce the entire quantity of carbon required in the act of respiration. That a pure albuminous diet is not sufficient for the maintenance of the human body was also shown by the fact that, when the amount of meat, theoretically required for its maintenance, was actually taken, considerable dyspepsia was produced. It is of some importance, as regards the knowledge of digestion, to be aware that the same quantity of meat is not so well digested when given at once as when divided between several times.

Some experiments were also made on the influence of non-nitrogenous diet. It was found that by an average bodily weight of 72·57 kilogrammes 2·775 grammes of carbon and ·1124 gramme of nitrogen were given off for each kilogramme in twenty-four hours. The proportion between nitrogen and carbon was 1 : 24·74.

NERVOUS SYSTEM.

LEVEN, M., and OLLIVIER, A.—*Researches on the Physiology and Pathology of the Cerebellum.* Comptes Rendus, vol. lv, 1862.

BUETTNER, C.—*On the section of the Casserian Ganglion, and on the changes which result in the Eye and in other organs.* Zeitsch. für Ration. Med., vol. xv, part 3, p. 186.

BERNARD, C.—*Experimental Researches on the Vascular and Calorific Nerves of the Great Sympathetic.* Comptes Rendus, vol. lv, Aug. 4th and Aug. 18th, 1862.

BERNARD, C.—*Experimental Researches on the Ganglions of the Great Sympathetic Nerve.* Comtes Rendus, vol. lv, Aug. 25th, 1852.

GOLZ.—*On the influence of the Nervous Centres upon the Vegetative Process.* Virchow's Archiv, vol. xxiii, p. 451.

Messrs. Leven and Ollivier endeavoured to gain accurate information on the functions of the cerebellum, by puncturing that organ with a strong, steel needle. The experiments were performed on guinea-pigs, and only those cases were relied upon in which no hæmorrhage took place after the operation. If, in such cases, the injury was entirely confined to the cerebellum, the animals recovered completely in from seven to fourteen days. But if, in addition. the medulla oblongata was wounded, death was sure to follow within from twenty-four to forty-eight hours. In simple lesion of the cerebellum the only and invariable changes observed were such as occurred in the functions of the motory apparatus. In most instances in which one lobe only was punctured the animal was drawn with an irresistible force towards the injured side. The animal, at first, revolved with great rapidity round its axis. These movements then got slower by degrees, till at last the creature succeeded in finding rest by lying down on the punctured side. This position was anxiously retained, as if the animal was all the while conscious of the impelling force. The writers explain the yielding to this one-sided impulse by assuming that the muscles of the body on the side opposite to the wounded lobe are, to some extent, paralysed. Strabismus was a constant symptom of the injury.

Numerous careful experiments on rabbits were performed by Dr. Buettner, with the view of arriving at a more definite result as regards the much-discussed question, as to how the changes are to be explained which take place in the eye when the Casserian ganglion is divided. Is the inflammation which follows this operation due to the influence of the nerves, or is it merely caused by mechanical irritation of the delicate organ, thus deprived of its protecting sensibility? Although Snellen had shown that, by fixing, in such cases, the ear of the animal to its eye, inflammation did not set in so rapidly as otherwise, he never succeeded in altogether preventing that issue. Dr. Buettner employed a better method of protection. He carefully removed the long hairs from the neighbourhood of the eye, and, immediately after having divided the ganglion, covered it with a cylindrical capsule. This capsule was tightly fixed to the surrounding skin, and its other end was closed by means of a watch-glass, through which the changes in the eye could be well observed.

No inflammation whatever took place in those cases in which he succeeded in shutting out all external irritation. But as soon as the capsule was removed inflammation set in with remarkable rapidity. He concluded that after division of the Casserian ganglion inflammation of the eye does not occur spontaneously, but that the organ is very liable to undergo that process on the slightest provocation; that its power of resisting irritation is greatly diminished.

In one case, however, he got an entirely different result. In a healthy rabbit, in which the eye had been protected in the usual way, severe inflammation set in without any external cause. This inflammation varied greatly from that which took place in cases in which the eye had not been protected after the operation. It ran a much more acute and violent course. The cornea, which in no other case was found ulcerated, was in this instance nearly perforated at the end of twenty-four hours. The rabbit was killed after the inflammation had lasted for two days. The dissection showed that the ganglion had been divided; but another cut was also found more anteriorly, not entirely dividing the nerves. The ganglion was vividly injected, and the inflammatory redness extended along the ophthalmic nerve. This appearance was present in no other instance, and Dr. Buettner did not succeed in producing these curious phenomena in any other rabbit.

Bernard states that in a former paper, written in 1852, he had shown that the vascular and calorific nerves of the head were independent of the musculo-motor nerves of the same part. It is his intention now to show that the same holds good for other parts also. By means of a hook, shaped for the purpose, Bernard managed, in a strong dog, to divide the sympathetic in the lumbar region, without injuring the other nerves or the peritoneum. The temperature of the side operated upon rose at once till it exceeded that of the other side by 8° C. Neither motion nor sensibility was impaired.

The vascular and calorific nerves are therefore quite distinct from the muscular nerves, both as regards their origin and their physiological properties. The movements of the blood may be accelerated or retarded in the vessels, either locally or generally, without any participation of the musculo-motor system in the process.

The local functional congestions, which supervene periodically in certain organs, are physiological instances of this independency of circulatory movements, while fever furnishes a striking pathological example of the same fact.

Similar experiments on the anterior extremities gave the same results.

Bernard performed some very neat experiments on dogs. He exposed the lingual nerve, the chorda tympani, and the submaxillary ganglion; thus having before him a sensitive nerve, a motor nerve, and a connecting nervous centre. He then inserted a small silver tube into the duct of the submaxillary gland, which enabled him to watch conveniently the flow of saliva. By dividing the trunk of the tympano-lingual nerve the ganglion was completely isolated from all cerebro-spinal influence. The lingual nerve was next stimulated by means of a weak electric current, and this at a point as remote as possible from the ganglion. Each time this was done a drop of saliva was seen dripping from the tube every six to ten seconds. But the flow of saliva ceased at once when the galvanic irritation was suspended. To show that the secretion was caused by true nervous influence, other stimulants were applied, and these furnished the same result as the electric current. Bernard found that, with the secretion, the circulation is accelerated at the same time, and concludes therefrom that the vaso-motor and calorific phenomena are exhibited without the aid of the cerebro-spinal system; that they take place, by means of reflex action, entirely within the province of the sympathetic nerve. He states that the tongue is connected with the submaxillary gland by two nervous arcs, which are in some measure concentric; the one communication, which passes through the brain, is conscious, and is made use of more especially by the gustatory functions of the tongue; the other, which is unconscious, passes through the submaxillary ganglion, and seems particularly to transmit the sensations of dryness or humidity of the bucco-lingual mucous membrane. But the submaxillary ganglion not only possesses the power of propagating reflex actions, which by its agency may arrive at the submaxillary gland without passing through the brain, but it seems also to have a special influence upon the intermittence of the salivary secretion; for Bernard has observed that after section of the ganglion (the lingual nerve and the chorda tympani remaining intact) the secretion of the gland becomes continuous, although its quantity may still be increased by the application of excitants of taste to the tongue. The secretion at once ceases when, on the side on which it had been continuous, the tympano-lingual trunk is divided above the point from which the chorda tympani emerges. Another remarkable fact is that the submaxillary ganglion, when it has been severed from all connection with the cerebro-spinal axis, retains its property of transmitting reflex actions for a limited period only. The gland entirely deprived of its nervous influences does not, as one would expect, fall into a state of functional rest, but goes on continuously secreting. Bernard thinks that the nerves do not, as is generally believed, act as stimulants to the functions of the organs with which they are connected, but, on the contrary, as reins.

Golz was led by his researches to the following conclusions:—That connection of the nerves of a part with the nervous centres is not indispensably requisite for the continuance of the vegetative functions of the part. Circulation, change of arterial into venous blood, inflammation—all these processes occur in a limb in which every connection with the nervous centres has been completely severed.

LEEDS SCHOOL OF MEDICINE

REPORT

ON

PRACTICAL MEDICINE AND PATHOLOGY.

BY
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GENERAL PATHOLOGY.

DEMME, H. (Schweiz, Mon. Schr. iii, p. 161, 1858). ERICHSEN, J. (Virch. Arch. xxi, p. 405, 1861).—*On Acute Miliary Carcinoma.* Schmidt's Jahrb., vol. 113, p. 42.

Demme defines this affection as a copious simultaneous deposit of small cancerous granulations, varying from the size of a hemp-seed to that of a pea, which takes place rapidly, with more or less violent febrile symptoms on the surface, and in the parenchyma of the most various internal organs. Demme gives seven cases in all, in which the acute deposit was secondary. Köhler and Bamberger have, however, published instances of its primary occurrence. (v. Krebs und Scheinkrebskrankheiten, 1853, p. 110. Oesterrh.-Ztschr. f. prakt. Heilk. iii, 1857.) The pleuræ are one of the favourite seats of the deposit; they were affected in all Demme's and Bamberger's cases. The granulations are always of encephaloid character, even when the primary disease is of some other, as scirrhus. In one of Demme's cases, miliary cancerous deposit was found in a large old coagulum in the right auricle. The duration of the acute miliary affection is estimated by Demme at about six days. One of Erichsen's cases was secondary to mammary cancer, the other was probably primary peritoneal.

COHNHEIM, JUL.—*On Inflammation of the Serous Membranes.* Virchow's Arch. xxii, 1861. Schmidt's Jahrb., vol. 114, p. 179.

The changes produced are,—that the epithelial cells become enlarged, round, and fatty, lose their nucleus and their envelope, are detached and thrown off; while the connective tissue corpuscles of the subjacent tissues for some depth proliferate and produce an abundant formation of mono- or poly-nucleated pus cells.

RINDFLEISCH, ED.—*On Inflammation of the Serous Membranes.* Virch. Arch. xxiii, p. 519, 1861.

Rindfleisch lays stress on the communication of the morbid action from the first affected part to an adjacent by means of the continual movement of the surfaces one over the other. He points out that where the movement is limited the inflammation remains more circumscribed. The cells found in recent exudation on serous membranes do not appear to proceed from the epithelium, no trace of which is discoverable.

GOLTZ.—*On the Influence of the Central Organs of the Nervous System on the Vegetative Processes.* Virchow's Archiv. vol. xxiii, p. 451.

Goltz separated one of the lower limbs of a rabbit from all connexion with the trunk, except the femoral artery and vein. He found that all the vegetative processes went on as before; the blood circulated, the arterial changed into venous, and inflammatory action was excited in the separated limb for the first twenty-four hours, just as when it was in its normal condition. He believes therefore that the influence of the nervous centres is non-essential to the vegetative functions.

RINDFLEISCH, E.; BUHL, L.; KLOB, J.; NEUMANN.—*Researches on the formation of Pus.* Virch. Arch. xv, p. 239, xxi, p. 486, p. 480. Wien Wochenbl. xvii, 28, 1861. Königsb. Med. Jahrb. ii, pp. 226—247. Schmidt's Jahrb. vol. 113, p. 24.

From examination of the inflamed corneæ of frogs Rindfleisch describes pus corpuscles as developed from connective tissue corpuscles, whose nuclei have greatly multiplied, by transverse division. In inflamed mucous membranes he finds at the margin of the epithelium, and also in its lower layers, a layer of young connective tissue cells of partly puriform character. These elevate the epithelium at the spots where they are accumulated into masses, and finally perforate it and escape. This occurs in what he calls epithelial catarrh, while in purulent catarrh the pus corpuscles are generated endogenously in the epithelial cells themselves. Buhl found in a case of inflamed biliary ducts the cylindrical epithelial particles enlarged, and sometimes containing pus corpuscles as well as the original nucleus, which, therefore, could not have given rise to them by partition. The epithelial cells themselves were seen in process of division. *Klob*, in examination of puriform subarachnoid exudation, found cells containing pus corpuscles, besides particles of pavement epithelium. He discovered this epithelium not only on the outer surface of the arachnoid, but on the deep, where it bridges over the sulci, and also on the pia mater at the same spots where it is separated from the arachnoid. *Neumann*, from a study of granulations, inflamed serous, and mucous membranes, and lungs, comes to the following conclusions. (1) The development of pus from epithelium is not proved. (2) The pus cells secreted on free, non-ulcerating surfaces proceed always from the connective tissue, and are produced either on the surface itself by peripheric sprouting from the connective tissue cells, as in the case of granulations, and probably of catarrhal mucous membranes, or in the interior of the tissue, and are then thrown off as is the case in inflammation of mucous and serous membranes. (3) The intercellular substance of the connective tissue at the same time does not fluidify, the pus serum is an effused fluid.

Billroth, Th.—*On the Minute Structure of morbidly affected Lymph-glands.* Virchow's Archiv. xxi, p. 423, 1861. Schmidt's Jahrb., vol. 113, p. 27.

The enlarged mesenteric glands of typhoid and tuberculous patients show great enlargement of the capillaries and of the lymph-sinuses, the latter being filled with large many-nucleated cells. In the second stage the capillaries are no longer dilated, while necrosis of the gland substance takes place in separate foci. A granular degeneration of the tissue also occurs, especially at the junction of the cortical and medullary portions. In hypertrophied glands the lymph-passages are completely obstructed and impervious. Most morbid changes begin in the lymph-sinuses.

Erichsen, J.—*On the Texture and Development of Gelatinoid Sarcomata.* Petersb. Ztschr. i. p. 313, 1861. Schmidt's Jahrb., vol. 115, p. 283.

In a tumour removed from the lower jaw of a stout peasant, æt. 20, Erichsen found three different forms of tissue. That which originally was analogous to mucoid tissue became, by cell-growth and fibrefying of the homogeneous basis substance, more fibrous; by increase and further development of the fibre-bundles there was produced an alveolar tissue, gradually approximating to fibro-cartilage; the fibre-bundles subsequently assumed a looser disposition; elastic fibres increased in number; and by the deposition of colloid substance the tumour finally assumed a preponderating colloid character.

Meissner, H.—*A Summary of what is known respecting the Occurrence of Echinococci and Cysticerci Cellulosæ in the Human Subject.* Schmidt's Jahrb., vol. 116, p. 183.

The greater part of this Report is taken up with cases of hydatid tumours occurring in the liver, lungs, heart, brain, kidneys, muscles, and in other unusual localities. In the introductory part there are some interesting researches by Davaine (*Gaz. de Paris*, 20, 21, 1862), relative to the mode of production of the hydatid fremitus. Briançon had previously found that the fremitus was easily perceived when a number of hydatids were enclosed in a pig's bladder filled with water, but that it diminished and ceased when the number of hydatids was reduced to a very few. Briançon, in place of hydatids, employed artificial bladders made of elastic and inelastic material, and instead of water used fluids of different density and viscidity, as ether, alcohol, oil, honey, saline solutions. Fremitus was never perceived except the bladders were fully distended; with the elastic ones it was distinct whether they were large or small, with the others only when they were above the size of a walnut. With elastic bladders, greater density of the contents appeared to increase the vibrations, whilst a greater viscidity had the opposite effect. When the bladders were distended with different gases no fremitus at all was perceived. Increasing the size of the bladders had some, but not a very marked, effect in increasing the fremitus. With regard to the fluid external to the bladders (hydatids) the vibration appeared to be most considerable when it amounted to one-sixth of the whole contents of the enclosing sac. The existence of the hydatid fremitus is of practical value as indicating (1) that the tumour is actually of a special kind; and (2) that it is in its normal and unaltered condition when it is most suitable for a successful operation. A *resumé* is then given of Budd's and Boinet's experience relative to paracentesis, which has been reported in the Year-book for 1861.

Wagner, E.—*Capillary Embolia from Fluid Fat one Cause of Pyæmia.* Schmidt's Jahrb., vol. 115, p. 22. Arch. d. Heilk. iii., 1862.

Wagner relates six cases in which he found the pulmonary capillaries blocked up with fluid fat. Vessels thus obstructed were most easily demonstrated in the free parts, but were most abundant in the infiltrated parts of the lungs and their vicinity. The exudation in the latter was not fatty, but albuminous, and contained corpuscles. In other parts, as the heart and muscles, fat was not so evident in the capillaries. W. believes the fat to have proceeded from a breaking up of the pus corpuscles of an abscess, and to have got then absorbed into the vessels.

Wilks, S.—*Abstract of Lectures on Pathology.* Med. T. & Gaz., July 12th, 26th, Aug. 23rd.

Wilks expounds Virchow's theory, but does not implicitly adopt it. He thinks there is much truth in it, as well as in the older view, but attributes more importance to congestion than Virchow does in the initiative of inflammation. With regard to new growths, he considers that there is no absolute distinction between the malignant and non-malignant, but that just in proportion as the active parts of the cells (the nuclei) are alone produced, so is the growth eminently malignant and disposed to propagate; and just also in proportion as the growth is prone to fibrillate, so is it disposed to be innocent. The vicinity in which the new growth is produced has also considerable influence on the form it assumes. Thus tumours near bone may be osseous or enchondromatous, those on the skin may be epitheliomas, and growths near the mammary and labial glands may consist of glandular structures. In Lecture II. Wilks argues that inflammatory changes in parenchymatous organs do not go on to suppuration, but that in all cases of abscess the seeds of the purulent matter are carried there from a distant part. Thus it follows that suppuration occurs not in connexion with the secreting part of the organ, but in the vascular or interstitial tissue, and the same he believes is equally true of cancer.

Rutherford Haldane, D.—*On the Coexistence of Tubercle and Cancer.* Edin. Med. J., Oct.

Haldane relates a case where the appearances at the autopsy were very fallacious. He admits the possibility of the two morbid states coexisting both in a condition of activity, although he has never met with such an instance.

Lionel Beale, M.B. (Lancet, Dec. 6th),

Proposes the view that irritants simply act by procuring freer access for the surrounding pabulum to the living matter in the interior of cells, and so causing their growth to go on faster.

HALDANE, D. R., M.D.—*On Cellular Pathology. Case of Syphilitic Deposit in the Substance of the Heart.* Edin. Med. J., Nov. 1862.

Haldane records a case of sudden death from a rather extensive deposit in the walls of the left ventricle; the muscular fibres in this were more or less broken up, and in those adjoining the deposit the nuclei were unusually numerous, and evidently undergoing multiplication. Some of the larger ones were evidently in process of splitting up. There was no other trace of syphilitic affection.

GENERAL SYSTEM.

LATHAM, P. M.—*General Remarks on the Practice of Medicine.* Brit. Med. J., Jan. 4th, 11th, May 3rd, 10th, 31st, June 7th, 14th, 28th, July 5th, 12th, 19th.

AITKEN, W., M.D.—*On the Physical Growth of the Recruit and the Young Soldier.* Med. J. & Gaz. April 19th.

LEE, H.—*On the Calomel Vapour-Bath.* Brit. Med. J., Jan. 18th, Feb. 22nd.

STEELE, A. B.—*Report on Vaccination as practised at the Liverpool Station of the National Vaccine Establishment.* Brit. Med. J., March 8th, 15th.

HAYDON, N. J.—*Case of Syphilitic Disease appearing in Two previously Healthy Children after Vaccination from a Syphilitic Child.* Med. T. & Gaz., March 29th.

CHALMERS, MILES, AND BURCH.—*Some Cases of Smallpox treated by the Sarracenia Purpurea.* Lancet, Dec. 6th.

DE PASCALE, G.—*Curious Effects of Malaria on the Body.* Brit. Med. J., Feb. 8th.

GASON, J., M.D.—*On Intermittent Fever.* Lancet, Oct. 18th, 25th.

LAYCOCK, T.—*Clinical Lectures on the Physiognomical Diagnosis of Disease.* Med. T. & Gaz., Jan. 4th, 18th, Feb. 1st, 15th, March 1st, 22nd, April 5th, May 3rd, 17th, 31st, June 7th, 21st.

FARR, W., M.D.—*On a Method of Determining the Effects of Systems of Treatment in Certain Diseases.* Brit. Med. J., Aug. 23rd, 1862.

PERCY, S. R.—*Lectures on New Remedies and their Therapeutical Applications.* Amer. Med. T., Jan. 4th, 11th, 18th, Feb. 8th, 22nd, March 1st, 8th, 29th, April 5th, 26th, May 3rd, June 14th, 21st.

FRASER, P.—*Some Remarks on Clinical Medicine.* Lancet, Aug. 23rd.

WILKS.—*Lecture on Syphilitic Affections of Internal Organs.* Med. T. & Gaz., Oct. 25th.

RUSSELL, J.—*Four Cases of Diphtheria, fatal; with Symptoms of Laryngeal Obstruction.* Brit. Med. J., Jan. 18th.

JAFFÉ, M.—*Report on Diphtheria in its Epidemiologic and Nosological Relations.* Schmidt's Jahrb. vol. 113, p. 97.

Gibson, W., M.D.—*Smallpox and Vaccination in Campbelton.* Edinb. Med. J., Feb. 1862.

Gibson states, that of 217 persons who had smallpox 140 were vaccinated, and 77 not; of the 140 only one died, but of the 77 there died 18. Of the 140 only five had the disease confluent; of the 77 it was confluent in 53. Of 333 persons, 175 were vaccinated, and had not had smallpox previously; all of these were exposed to the infection, and 69 only were attacked. Of the same 333 there were 55 unvaccinated, and who had not had smallpox before; of these, only one escaped the disease. It further appeared that the protective power of vaccination was not confined to a few years subsequent to the operation, and that the severity of the disease did not increase in a given ratio from the same period. Gibson argues that vaccination should be made compulsory, and that there is a necessity for more stringent sanitary laws to prevent smallpox from spreading.

Influence of Concurrent Diseases on Vaccine Virus. Amer. Med. T., Brit. Med. J., May 31st.

Two instances are related, in which persons previously exposed to smallpox infection were vaccinated, and in whom both diseases were fully developed. Lymph taken from their vaccine vesicles was used to vaccinate healthy persons, and from these again was transferred to others, but no abnormal effects whatever were produced. The writer, from forty years peculiar familiarity with this subject, under most varying conditions, arrives at the conclusion that vaccine lymph is never the medium by which other constitutional affections are transferred from one person to another.

Lyman, H. M. (Amer. Med. T., Feb. 22nd, March 1st, 8th), records instances of injurious consequences resulting from vaccination with decomposing lymph, or with lymph taken from persons who had been recently blistered. Erysipelatous and gangrenous inflammation were produced, and several persons died. He cites several instances from German and French authorities, in which syphilis was communicated by vaccination (v. Heine, Edin. Med. J. 1858, p. 605; Lecoq. Gaz. des Hôpit., Dec. 24th, 1859; Gaz. hebdom, March 9th, 1855). As in many cases persons have escaped without injury who have been vaccinated from the syphilitic, he suggests that this immunity may be owing to the contents of the vesicles from which the virus was taken not having become purulent, the syphilitic taint not being communicable except by purulent matter. Erysipelas is more prone to occur in persons of irritable, thin, and vascular skins, in certain atmospheric conditions, and in infants vaccinated before the fourteenth day. Numerous punctures seem also liable to produce excessive inflammation, and even dangerous sloughing. Lyman does not determine whether virus, transmitted for a long period from one human being to another, loses any of its protective power, but thinks it certain that virus recently derived from the cow is much more prone to cause disturbances, ulcerations, diffused inflammation, and general cutaneous affections.

Ragaine, Barillier, Liegard.—*On the Vaccination of Infants.* Amer. Med. T., April 5th, 19th.

Ragaine finds no ill effects from vaccinating delicate, thin children, under a month old. Barillier, at Bordeaux, relates experience of an opposite kind, and prefers, in hospitals, not to vaccinate children before the second or third month. Liegard refers to cases in private practice in favour of very early vaccination, within a few hours after birth.

Laforque also finds (1) that vaccination practised on children during the first days that follow their birth is not dangerous; and (2) that the accidents observed after vaccination are exceptional, or due to causes foreign to vaccination. He does not, however, recommend vaccination, as a rule, in children favourably circumstanced, before the age of three months. Robert, Danyan, and Depaul seem to hold nearly the same opinion.

Morris, F. W.—Amer. Med. T., May 24th. Recommends highly the sarracenia purpurea as an immediate and absolute remedy in smallpox, and probably in all contagious diseases.

Cleborne, Ch. J.—*On the Treatment of Variola.* Amer. Q. J. of the Med. Sc., April, 1862.

Cleborne treated forty-three cases of confluent variola with large (ʒi—ʒij) doses of pot. chloras internally, and plasma pot. iod. externally, with only three deaths. Six out of thirty-seven had been previously vaccinated. The following is the formula for the plasma:—Pot. Iod. ʒxij; Arrow-root, ʒi + ℈j; Glycerine, ʒij; Ol. Bergamot, ♏ 40.

Dickson, S. H.—*On Smallpox and the Means of Protection against it.* Amer. Q. J. of Med. Sc., July, 1862.

Dickson remarks on the recent prevalence and fatality of variola, and believes it to be in the power of all civilized and well-governed communities to confine within very narrow limits, or rather to exterminate this pestilence. He proposes that it shall be ordained that every child shall undergo vaccination by some expert within a month after birth; that, as soon as the constitution shall have gone through its influence, inoculation with variolous virus shall be performed, and that this latter operation shall be repeated again and again at brief intervals, until all reasonable satisfaction has been attained of the entire extinction of the susceptibility to smallpox.

Miles, H. C.—*On the Employment of the Sarracenia Purpurea, or Indian Pitcher-plant, as a Remedy for Smallpox.* Lancet, Oct. 18th.

The root is to be slowly and thoroughly dried, the thin fibres around it pared away, and the firm solid part alone used. The root, sliced into thin pieces, is to be immersed in water, ℥i—℥ij ad Oij. for two or three hours. The results of the administration of this remedy, to persons already covered with varioloid eruption, are (1), Rapid diuretic action, with immediate lessening of the febrile symptoms; and more tardily it acts as an evacuant on the large intestines; (2), On a repetition of a dose of the decoction (which perhaps should be given after three or four hours), the mitigation and obvious improvement, should any symptoms of cerebral disturbance be present. (3) Its extraordinary effect (within a brief period) in altering the *character* of the cutaneous eruption. It seems to arrest the morbid process, and induce healthy instead of diseased action. The pustules appear simply to be deprived of their vitality; they desiccate and fall away. (4) The prevention of *pitting*, consequent, it may be supposed, on the whole nature of the pustule being changed in the manner just noted.

MOYNIER.—*On Vaccinal Saturation.* J. de Med. et de Chir. pratiq., vol. xxxiii, p. 100.

A female child, æt. 5 months, is vaccinated Aug. 19th, re-vaccinated with her own lymph on the 22nd, 23rd, and 24th; these inoculations succeeded, but none made on the following days, although lymph taken on the 25th produced a characteristic vesicle in other children. In some children saturation does not ensue till the eighth or ninth day. From these observations, it is intelligible how, if vaccination is performed during an epidemic of variola, the result will vary according as the vaccine matter has had time to modify the system or not. If the system be under variolous infection already, the vaccine vesicle will not develop; if the converse is the case, the variolous will not; if the system receives both infections simultaneously, the eruptions will develop together.

HILLIER, T.—*Clinical Lecture on Scarlatina and its Sequelæ.* Med. T. and Gaz., May 31st, June 7th, 14th, 21st, 28th.

In proportion to population, scarlatina is but little more fatal in towns than in the country. Family peculiarities of constitution seem to favour the occurrence of the disease, and to dispose to a fatal issue. The mortality is highest (35 per cent.) in the last three months of the year; next, in the three preceding (24 per cent.); and lowest (18 per cent.) in the first three months. The third year of life gives the greatest number of deaths—17 per cent. The consecutive dropsy is most fatal in the fourth year, and sixty-nine per cent. of all the deaths occur under the age of five years. Males are more subject than females to the dropsy in the ratio of 60·3 to 39·7. The poison is not very, if at all, volatile; it is destroyed by a heat a little below 212° F.; it retains its morbid potency with great tenacity for a long, uncertain time. Dr. Richardson has recorded a case where it seems to have attached itself to thatch four months. The period of incubation varies much from one to fifteen or more days. Ringer's observations show that, even during the height of the fever there is not, as would be expected from the elevation of temperature, any increase in the quantity of urea secreted—that there is sometimes a decided decrease; that there is always a very decided decrease in the second and third weeks of the disease; and that the urinary organs only recover themselves so as to secrete a normal amount of urea at the end of the third or fourth week. Dr. Fenwick states that a desquamation of the gastric tubes takes place, and that the intestines are similarly affected, but to a less degree. Enlargement of the solitary glands and Peyer's patches are met with in fatal cases, and sometimes ulcerations. Ringer finds that the temperature usually falls very decidedly on the fifth day; if not then, it occurs on the tenth, fifteenth, or twentieth day. Subsequent rise of the temperature depends on the setting up of some local complication. Among the sequelæ, Hillier especially notices pleurisy and pneumonia. The former especially may come on insidiously, and make considerable progress before its presence is suspected. Convulsions occasionally occur as a result of renal disease, but are not so fatal in children as in adults. Out of seventeen cases noticed by West and Rilliet, thirteen recovered. Tubercular disease may be induced by scarlatina, but is more often the result of measles. In the way of treatment, besides the usual means, we may notice the following:—In one case tepid effusion, and in two the wet sheet was used with satisfactory results. In malignant cases, ammon. carb. is the best remedy. Leeches to the swollen throat have not proved useful. In the renal affection, as the fever subsides, benzoate of ammonia, digitalis, and diluents may be given. If convulsions occur, free venesection is to be practised, and blisters applied to the legs. In pleurisy or pneumonia calomel is to be administered in small frequently repeated doses.

Edwards, C. J.—*The Chlorine and Milk Treatment of Scarlet Fever and the Typhoid Fevers.* Lancet, June 28th.

Edwards does not bring forward these remedies as specifics, or as replacing antiphlogistic treatment if required during the earlier stages, but as possessing the important quality in themselves of at once destroying the putrid effluvia generated by, and thrown off from, the secreting surfaces of the stomach, alimentary canal, kidneys, lungs, and skin, and endowing the system with power to bear the progress of the disease. He recommends chloroform to be given with the chlorine, as producing great calmness and inclination to sleep. Milk he believes to be the most suitable diet, far less likely to cause delirium than broths. In the beginning of the attack he invariably employs antiphlogistic measures, and stimulants and restoratives only in the later periods.

Ringer, S. M. B.—*On the Temperature, Urea, Chloride of Sodium, and Urinary Water in Scarlet Fever, and on a Cycle in Disease and Health.* Proceed. of Med.-Chir. Soc., vol. iv., No. 1. Med.-Chir. Transac., vol. xlv.

Ringer examined thirty cases, some as late as the forty-fifth day of the disease. The temperature fell in most cases on the fifth, tenth, or fifteenth day. If it did not fall till the fifteenth or twentieth, there was a fall of variable intensity usually on each of the preceding fifth days. With each fall the state of the patient improved. The persistence of the lesions produced by the fever, as sore-throat, was attended with elevation of the temperature. A second elevation occurring after the fever on the twenty-second day or thereabouts, was due to Bright's disease, endocarditis, tuberculosis, or chicken-pox, or some obscure condition. This subsequent elevation of the temperature always fell on a fifth day of its own, the existence of cycles being thus very apparent. A morning fall of temperature is one of the earliest signs of improvement. The highest temperature occurred generally between 2 and 8 P.M. The urea is not increased during the fever, and for many days after its decline is far below the normal amount. When Bright's disease is set up the urine in some cases is greatly diminished, in some it is not at all. The chlorides were never absent in any of the cases, but were much diminished during the fever days, and afterwards increased gradually. In one case in which M. Bright. set in the chlorides diminished very little. The urinary water during the fever is often not diminished, sometimes it is increased. Albumen appeared in the urine in one case out of twenty-one during the fever days; in eighteen cases under observation for a long time it appeared in seven during the fever-free days. The time of its appearance varied from the ninth to the twenty-third day; its continuance from three to nine days. There is no necessary connexion between the intensity of the inflammation (as tested by the elevation of the temperature) and the amount or duration of albumen in the urine. Blood to a large amount may occur in the urine with the slightest trace of albumen. When blood does appear there is always a previous rise of the temperature. Ringer tries to prove that in health there is a daily and a five days' cycle of tissue change, and that in fever there is a great increase of these cycles of tissue change, from which results the great elevation of the temperature.

Laycock (Med. Times and Gaz. July 19th) reports three cases of scarlatina anginosa, one complicated with diphtheria, in which cold affusions or the cold wet sheet were used beneficially. In one case its application was followed by profuse perspiration, in another it lowered the temperature of the skin many degrees, but only for an hour.

Christian, E. P., A.M., M.D.—*On the Epidemic Relationship of Zymotic Diseases.* Amer. Q. J. of Med. Sc., July, 1862.

Christian observed the simultaneous prevalence in a very marked manner of diphtheria, scarlatina anginosa, erysipelatoid inflammation, and sloughing, and puerperal metritis.

Searle, A.—*Remarks on Scarlet Fever.* Amer. Med. Times, Aug. 9th.

Searle finds a kind of stock or cravat, containing hops, and dipped in hot vinegar, applied round the neck, of the utmost use in scarlatina anginosa. Secondary fever and dropsy he finds to require a very thorough antiphlogistic treatment.

Serre (J. de Med. et de Chir. pratiq., vol. xxxiii, p. 455) records several cases showing the good effect of general blood-letting in cerebral and thoracic complications of scarlatina. In one case the venesection was performed three times.

Gull.—*Clin. Lect. on Typhus Fever.* Med. Times and Gaz. April 5th.

Gull remarks on the great malignity the disease has shown lately. He views it not so much as a blood-disease, but as one of the nervous system inducing exhaustion of the heart and blood-vessels, even to the capillaries. The various tissues become engorged, and exudations take place. Gull says that the disease has a definite course, the patient must get worse up to a certain date (about the fifteenth or sixteenth day), after which he will improve. He rejects the zymotic theory, and rather believes that the system becomes, as it were habituated to the poison, which is not eliminated from the system as the patient recovers.

Peacock, T. B., M.D.—*Clinical Lecture on the recent Epidemic of Fever.* *Lancet*, July 5th, 26th; Aug. 9th.

Peacock found typhoid very prevalent in the summer and autumn of 1861, and in the last three months of the year typhus appeared, became very prevalent in the winter, and continues to be frequent. Of thirty-two cases of typhoid, ten only occurred in winter and spring, and twenty-two in summer and autumn. Of thirteen cases of typhus, ten occurred in winter and spring, and only three in summer and autumn. Typhus was observed to be virulently contagious; nine of the nurses took the disease. The mean age of the typhoid cases was 19·9; of the typhus, 30·4 years. Typhus attacks more suddenly and more severely than typhoid. The typhus eruption is very trivial in the slighter attacks, in others it continued from six to fourteen days. In thirty-two cases of typhoid, only fifteen presented any spots. Peacock does not confirm the idea that the eruption in typhoid is less frequent in young persons, or that the intensity of the disease influences the occurrence of the eruption. In typhoid there is less marked and persistent cerebral disturbance, less rapid and complete prostration of strength, and more tendency to diarrhœa and other symptoms of gastro-intestinal complication than in typhus. In the recent epidemic the exceptions to these rules were more marked and numerous than they ever had appeared before. The total duration of active disease in typhoid may be estimated at forty-six days, and of indisposition at fifty-six days, whereas in typhus, the corresponding figures are thirty-nine and forty-two. Two of the thirteen cases of typhus proved fatal with no other morbid condition than pneumonia, and congestion of all the internal organs, and a fluid state of the blood. Of the thirty-two cases of typhoid, three proved fatal with intestinal disease in various stages. A case of typhus is recorded in which there was very considerable intestinal disorder, yet after death Peyer's patches were found healthy; and another in which typhus supervened during convalescence from typhoid. In the latter, if death had occurred, intestinal disease, or at least its traces, would have been found, together with the symptoms of typhus. Peacock warns against too free a use of stimulants in the treatment of either fever, and is more sparing in the use of astringents or opiates in typhoid than formerly. An improved diet may be allowed earlier in typhus than in typhoid.

Ward.—*On Enteric or Typhoid Fever.* Med. Times and Gaz., May 24th.

From the circumstance that the intermittent fever and the enteric cases admitted into the "Dreadnought" came from the same localities, Ward is led to the conclusion that the specific exciting poison of enteric fever consisted in some atmospheric influence, analogous to, not, of course, identical with, that which induces ague and remittent fevers. The following analogies of enteric with the latter disorders are noticed:—(1) It has a tendency to relapse; (2) It falls peculiarly upon the abdominal viscera, the ileum, the liver, and the spleen; (3) It prevails most at the season which most favours the development of remitting fever, viz., the close and fall of the year; (4) It appears to be fomented by similar atmospheric conditions, as regards hygrometric state, temperature, &c. Decomposing animal matters, in common with other physical and mental influences, which depress the vital powers, are but powerful predisposing causes.

HÉRARD.—*On the Exhibition of Food in Typhoid Fever.* J. de Med. et de Chir. pratiq., May, 1861. Amer. Q. J. of Med. Sc., July.

Hérard advocates strongly the administration of nourishing food, soups, jellies, egg-flip, and wine in quantities proportioned to the degree of prostration. When the digestive powers are much impaired he also administers pepsine. He refers to cases where, as shown by Marotte, vomiting, diarrhœa, and delirium persisted during abstinence from food, and gradually subsided as nutriment was cautiously given and increased. The most marked distaste for food is not to justify its omission; the patients must at first be compelled to take it, and after a while they will receive it with pleasure, and with the most beneficial results. Convalescence is much more rapid in patients who have been well supported with nutriment throughout the fever, than in those who have been left without it.

KENNEDY, H.—*Further Observations on Typhus and Typhoid Fevers, as seen in Dublin; especially the united form they assumed during the first half of the year*, 1862. Dublin Q. J. of Med. Sc., Aug., 1862.

Kennedy's experience leads him to differ from the view which asserts the non-identity of these fevers. He agrees with Huss that they arise from a common cause, observes that the symptoms in many cases are of a very mixed kind, and that during the course of an epidemic the type changes from typhus to typhoid. He lays some stress on the occasional occurrence of intestinal ulceration in other diseases besides typhoid, as in scarlatina and variola. He controverts Jenner's statement, that intestinal hæmorrhage is characteristic of typhoid, affirming that he has examined several cases, in which there had been extensive hæmorrhage with well-marked symptoms of typhus, yet without any trace of ulceration. Neither does he find that epistaxis is much more frequent in typhoid than in typhus. In Dublin it is sure to prevail during hot weather, whatever the type of fever may be. Besides typhus and typhoid, Kennedy recognises a gastric type of fevere. He cites Dr. Gordon's experience as supplementing his own, and showing that ulceration of Peyer's glands may be met with in connexion with well-marked cases of typhus fever; from which he concludes that the two types of fever may exist simultaneously in the same patient. Short accounts are given of forty cases, differing in many particulars from each other. As to treatment, Kennedy says that it must vary according to the character of each individual case. Leeches or a blister to the right iliac region are very often advisable, and as an astringent sulphuric acid internally. If diarrhœa suddenly cease and the brain or chest become involved, a small blister should be put on the chest and the discharge maintained for some days. Stimulants, he thinks, are given too indiscriminately, and wine, he thinks, is generally safer than beef-tea.

HJALTELIN, J., M.D.—*On the disinfecting Treatment of Typhus, Eruptive and Enteric.* Edin. Med. Jour., Sept. 1862.

During the years 1858—1861, Iceland was visited by three most malignant diseases, viz., typhus and typhoid fever, dysentery, and sporadic cholera. In 1856 and 1857 an epizootic prevailed among the sheep and a prodigious number were killed to prevent the spread of the disease. Their flesh being badly salted and stored up, produced, in many houses, an insupportable odour, and soon typhus and typhoid fever broke out and extended by contagion, so that in two years no less than 900 cases out of a population of about 10,000 inhabitants were registered. The severe cold of the winter checked the disease, but in some parishes one-tenth of the inhabitants perished, owing to the entire deficiency of medical aid. He describes at length the various stages of typhus and typhoid fevers. The eruption of typhus appeared two or three days after the occurrence of shivering, and consisted of small roundish or irregular spots of a dingy-red colour, closely crowded together, and somewhat resembling flea-bites, but without a dark point in the centre. It was observed first on the chest and neck, afterwards on the shoulders, forearms, and legs. When this eruption was of a bluish or dark colour, and formed large irregular spots, the case generally proved to be malignant, but when the spots were small and of a brownish or dingy-red hue, the prognosis was far more favourable. The third stage was characterised by extreme nervous depression, the urine contained large quantities of urea. The fourth or critical stage of recovery commenced on the ninth, eleventh, fourteenth, or seventeeth day. In enteric typhus (typhoid), the third stage was very similar to that of typhus, but most of the patients were tormented with diarrhœa, the evacuations being dark green or yellow-ochre, extremely fœtid, and often sanguinolent. Others were affected with tympanitis and constipation, constant hiccough and convulsions, and incontinence of urine. In this stage small rosy-red spots appeared on the skin, especially on the abdomen, breast, and arms; and some few patients had sudamina, a symptom which was almost invariably indicative of a fatal termination. The pulse was very weak and frequent, and the pulsation of the heart irregular. In a few cases softening of its muscular texture occurred previously to dissolution. Under the head of treatment Hjaltelin states, that he first gave a fair trial to the expectant, which included free ventilation, the use of deodorants and disinfectants, a supporting diet, oleaginous frictions to the right iliac region when tender, and rice-water or decoction of salep in diarrhœa, and musk in nervous derangement. With the result of this treatment, the author was by no means satisfied. He then argues in favour of the identity or nearly complete identity of typhus and typhoid, both as to their symptoms and causes. He is very doubtful, whether the distinction can be maintained between the rose-coloured or rubeolate and mulberry eruption. A good deal of stress is laid on the specific odour exhaled from patients affected with either form of fever, and on the circumstance that no real difference can be detected between them. The treatment which Hjaltelin approves, consists of purgatives in the commencement, free ventilation, the destruction of all offensive odours, the use of disinfectant medicines internally in a bold and consequent manner, and support by easily-digestible food. Calomel in doses of ℈j or gr. x. was given every day, or every second day with neutral salts, until the fœtid odour of the dejections was gone. The results of this were lessened tenderness in the right iliac region and the whole abdomen, lowering of the pulse, diminished headach, and more clear consciousness, when from the beginning there had been stupor or coma. Iodoform and chlorine gas mixed with the air and inhaled, produced a very good effect, the former was also given internally dissolved in ether, and was found to check coma and delirium. The mortality of the cases under his treatment was one in thirty, and would probably have been less, could the patients have been placed in more favourable circumstances.

SMITH, ARCHIBALD.—*On the spotted Hæmorrhagic Yellow Fever of the Peruvian Andes, during* 1853, '54, '55, '56, '57. Brit. Med. J., Jan. 4th.

The epidemic appeared under the forms of benignant, or simple hæmorrhagic; of bilious, or icteric; and of nervous, or ataxic. It seemed, at an elevation of 7000 feet, the blood-poison of the coast directed itself chiefly to the subcutaneous capillaries in preference to those of the stomach. Black vomit occurred on the coast, red and violet spots in the skin at the higher level; the disease was, however, equally fatal.

ALVARENZA.—*Pathological Anatomy of the Yellow Fever at Lisbon, in* 1857. Lond. Med. Rev., March.

Hæmorrhages were found, as to the order of frequency, in the following organs;—the lungs, meninges of the brain, gastro-intestinal mucous membrane, urinary, and the muscles. The liver cells were loaded with fat and sugar. The contents of the intestine were bloody. Albuminuria is usually greatest in the early stage, and decreases in the later.

LAWSON, R.—*Observations on Yellow Fever; Influence on the Secretions.* Brit. and For. Med.-Chir. Rev., April, October, 1862.

Suppression of urine is most common from the fourth to the sixth day, but it may occur many days later. The result of suppression is almost universally fatal. Vesical epithelium appears abundantly in the urine on the morning of the fourth day, and a day later is in great measure replaced by granular tube-casts from the kidneys with which waxy ones are not unfrequently associated. The casts become more hyaline and less numerous on and after the sixth day, till they nearly disappear. In some cases there is no blood whatever in the urine, in others blood globules are present in the secretion, or in the casts, and in others again the urine, the epithelium, and the casts are tinted deeply with hæmatine. The latter condition is almost a fatal sign, while the presence of blood globules (if not excessive) is generally of good omen. Bile also may appear in the urine, and its excretion in this way is always beneficial. The presence of urrhodine or uroglaucine in notable quantity in the urine coincided with epidemic prevalence of the fever. These modifications of the natural pigment are shown by the development of a colour varying from red, through purple to blue, when some drops of urine are cautiously added to ʒi of hydrochloric acid in a small test-tube. Globuline, casein, and albumen may all be present together in the urine. Gallic acid, Lawson thinks, should not be given when casein is present, as it precipitates the latter immediately. The amount of albumen varies greatly, not at all in proportion to the severity of the disease, it is less copious when the liver is severely implicated. The urea and the chlorides were much diminished. The alvine evacuations are apt to become light coloured, and this, if it persists, is always of serious import. If, on the contrary, they become natural it is a harbinger of a safe termination. The pale colour Lawson ascribes to suppression of the natural secretion of the colon. The occurrence of black vomit is preceded in many cases by white vomit, consisting of a clear acid fluid, and rejected with severe straining, and extreme precordial oppression. The transition from white to black vomit first manifests itself by the appearance of brown specks in the clear mucus, which increase in number, while the mucus becomes more limpid, and tinged more or less brown. The acidity gradually diminishes. From the glandular epithelium in the tubular glands of the stomach being coloured brown and containing numerous granules, from the disappearance of that colour as black vomit becomes copious, and from the occurrence of similar elements constituting the characteristic portions of the vomit itself, Lawson has no doubt as to its actually originating in the gastric tubes, and being a true secretion, though occurring in the course of disease. Vessels were found among the tubes with entire blood corpuscles in them. The kidneys are always found congested and rather enlarged, with evidences of exudation into their parenchyma and their tubes. The latter, by obstructing the tubes, may become one of the most fatal complications of the disease. The gall-bladder was often distended with bile, and never was quite empty. The bile ducts were sometimes tinged brown internally, sometimes not; the former state coincided with the absence of jaundice during life, the latter with its presence. The smaller branches of the portal vein were imbedded in a layer of connective tissue more or less abundant in different cases, of an opaline appearance, separating the vein from the adjacent lobules, and from the accompanying artery and duct. The smaller vessels, like those of the kidneys, were covered with closely-set nuclei and granules, and surrounded with exudative material, clear or opaline, contained in connective tissue. This condition extended even into the lobules, where the tubes of the cell-containing network were sometimes widely separated by the intervening deposit. In every case where death occurred at the usual period of the disease the hepatic cells were found of a pretty deep brown colour from biliary matter. Sometimes the cells were without oil, sometimes they contained much. Lawson observes that there is an active exudation into the parenchyma of the liver in yellow fever, and the symptom from which it has derived its name depends on the exudation process having embraced the minute bile ducts and closed them against the passage of the bile, of which there are abundant indications in the lobules. The liver may become affected at an earlier or later period, in the former case, the disease is of longer duration and the convalescence much more tedious. The mucous membrane of the stomach was often of a deep brown colour when there had been little black vomit, and *vice versâ*. Small ulcers were occasionally seen in the ileum, cæcum, and descending colon, and there was a gradual transition from these in various instances to the characteristic enteric lesion of typhoid fever, which disease was not unfrequent at the same time. When there had been much heaviness, stupor, or coma before death, the vessels of the membranes were always found full, and the pia mater looked opaline from interstitial effusion, and there was a variable quantity of yellow serum at the base of the brain and in the ventricles. Under the microscope it was seen that large exudation corpuscles were numerous in the white matter near the surface of the hemispheres, and the smaller blood-vessels were covered with closely-set nuclei. The head-symptoms may come on suddenly and violently, or cerebral affection may ensue more gradually, increasing with accessions of fever. The heart in yellow fever is not fatty, at least, not necessarily; its fibres are pale and their transverse striæ indistinct, and the interposed vessels were beset with nuclei and exudation, as in the other viscera. The blood and effused serum always contained urea. The condition of the lungs varied much; sometimes they were quite normal, at others they showed evidence of acute congestion. Lawson is satisfied of the correctness of the older view, that the yellow fever, presenting albuminuria, renal and vesical desquamation, and absence of the chlorides, may be frequently remittent, or even quite intermittent. Lawson gives tables which show that fever in Jamaica is a disease of season, the period for which is well defined at each station, and that these periods differ materially at different stations, though in the immediate neighbourhood of each other. He believes that yellow fever originates from local causes, and not from contagion. A case is related where four healthy zones in an encampment included and alternated with three unhealthy, and though the sick were removed to the healthy zones, the disease made no progress in them, though fresh cases continued to occur in the unhealthy. The miasm giving rise to yellow fever appears to be distinct from that causing re- or intermittent, but complicated forms may occur. In the way of treatment Lawson has not much to propose. He has seen the disease cut short by an emetic and calomel with purgation, and he thinks nothing is of more importance than to re-establish the secreting function of the colon, and to obtain feculent, not mere bilious, evacuations. The congested state of the kidneys must be kept in view and dealt with in the usual way. Large doses of quinine he is sure are often injurious, and alcoholic stimulants should not be employed too lavishly or in unsuitable cases.

SISTACH.—*On Arsenic in Intermittent Fever.* Gaz. des Hôpit., Oct. 26th, Nov. 9th, 1861. Brit. Med. J., Feb. 1st.

Sistach gives about $\frac{1}{9}$ gr. of arsenious acid, four times a-day, until the fever is cut short, afterwards $\frac{1}{12}$ gr. $\frac{1}{16}$ gr., or $\frac{1}{28}$ gr. The results seem to have been favourable.

LERICHE.—*On Tannin as an Antiperiodic.* Bull. Gén. de Thérap., Nov. 15th, 1861. Brit. Med. J., March 8th.

Leriche says that in intermittent fever twenty-two to thirty grains of tannin should be given two or three hours before the setting in of the paroxysm. Two or three doses are generally sufficient to produce a cure. If the fever be obstinate fifteen grains are given in divided quantities to be taken every hour.

Garden.—*On the Therapeutic Uses of Anarcotine (olim Narcotine).* Lancet, Jan. 11.

Anarcotine is obtained from the residue of opium left after separation of the morphia. It is white, inodorous, crystalline, insipid, but forms salts with the mineral acids of very bitter taste. In small doses, ½-j. gr., it acts as a tonic, in larger doses, up to three or six grains, at suitable intervals it is very efficacious in arresting periodic fevers. It increases the heart's action and renders the pulse somewhat fuller, and in still larger doses (five to fifteen grains) it causes increased heat of surface and diaphoresis, and sometimes nausea, giddiness, and vomiting. In several cases marked benefit has been obtained by combining it with Tr. Opii.

Marston, J. A.—*On the Occurrence of Aguish Diseases on Board Ship.* Edin. Med. J., Feb.

Marston gives two instances, in the first of which a whole crew, and in the second at least seven individuals, to all appearance contracted ague on board ship during a voyage. In both instances the patients had been healthy before embarkation, the places from whence they sailed were healthy, but they were exposed during the voyage to the exhalations from wet and drying wood. Quinine was curative in the second instance, the point is not mentioned in the account of the first.

Almès.—Gaz. de Paris, 22, 1860. Schmidt's Jahrb., vol. 113, p. 30.

Prefers the use of arsenic to quinine in all malarious fevers, except the pernicious; it acts more slowly than the latter, but much more enduringly, and cures both the splenic tumor and the cachexia. He gives the first day Pot. Arsenit. gr. ⅚, and on the four succeeding days half as much.

Macario.—Gaz. de Paris, 35—39, 1860.

Praises the efficacy of the cold douche in obstinate ague and its sequelæ.

Reiz, C.—*Cases of pernicious Ague.—Melanæmia.* Hosp. Tidende, 50, 51, 1860. Schmidt's Jahrb., vol. 114, p. 35.

The patient was a sailor, æt. 47, who had suffered from yellow fever in the tropics eight years before. In the third paroxysm he became stupified and comatose with profuse sweat, did not rally, had some severe convulsions, and died in coma about the time of the fourth paroxsym. The membranes of the brain, the choroid plexuses, and the whole encephalon were much congested, but normal. Some of the capillaries were obstructed with black pigment, there was none in the spleen or liver. Lungs and kidneys congested, but healthy. Reiz is inclined to regard the pigmentary deposit as the cause of the pernicious symptoms, but allows that this case does not afford much evidence in favour of this view.

Moutard Martin; Sistach.—*On the Physiological and Therapeutical Effects of Arsenious Acid.* Ann. de Thérap., 1862, p. 110.

They find it to be an excellent tonic improving the strength and increasing the appetite. As long as fever continues it is tolerated to an amount which cannot be borne when the patient is apyretic, but produces then cutaneous eruptions, conjunctivitis, and œdema. Arsenic is extremely soluble in glycerine, ʒij of the latter dissolve ʒj of arsenious acid.

The Sanitary Commission (Amer. Q. J. of Med. Sc., April, 1862, p. 492) reports strongly in favour of re-vaccination in all bodies of men exposed to variolous contagion; and as strongly in favour of the prophylactic power of quinine as a protective against malarious infection. They report that the latter has a period of incubation varying from six to twenty days, that it may either induce re- or intermittent fever, or any of the other forms of miasmatic disease, or may only impress the paroxysmal type on some intercurrent malady of a different kind, or without causing any actual attack of sickness, may give rise to malarial cachexy.

GREENHOW, E. H., M.D.—*On Brass-founders' Ague.* Trans. of Med.-Chir. S., vol. xlv.

The attacks commence with malaise, and tightness of chest, sometimes accompanied by nausea. They always occur during the after part of a day spent in the casting-shop, and are followed in the evening by shivering, sometimes succeeded by an indistinct hot stage, but always by profuse sweating. The sooner this follows the setting-in of the cold stage, the shorter and milder is the attack. The non-habituated suffer most. Slight causes are apt to reproduce the disorder in the predisposed.

ALBERS, J. F. H.—*On Œsculin and its application in Diseases.* Deutsche Klinik, April 12th.

This is a white crystalline powder, obtained from the bark of the horse-chesnut, soluble in 600 parts of cold, and in thirteen of boiling, water, and devoid of basic properties. It has been found effectual in cases of intermittent fever which had resisted quinine. It is said to increase remarkably the flow of blood to the brain and cord. It seems to agree better than quinine with irritable stomachs.

MCCRAITH.—Med. T. and Gaz., Aug. 2nd.

He writes to say, that Mons. Chasseaud finds an injection of two grains of quinine in an alcoholic solution under the skin to be as effectual as scruple doses given in the usual way.

ROGERS.—Amer. Med. T., Aug. 9th.

He finds that quinine exerts a strong prophylactic influence against malaria for one or two months. By means of quinine, and occasional removals from the locality, health may be well preserved for years.

MELLER, C. J.—*Fevers of the South Coast of Africa.* Brit. Med. J., Oct. 25th.

Meller distinguishes a sthenic form of fever, an asthenic, and an ephemeral. Quinine does not prove a prophylactic, men not taking it at all being quite as free from fever as those who take it regularly. It is, however, essential in the treatment of developed attacks after the liver has been duly relieved by purgatives and calomel. The hepatic disorder often produces jaundice, and derangement of the heart's action, so that not only a *bruit de diable*, but a loud mitral murmur may be heard. Anæmia, œdema of the lower limbs, and splenic enlargement are the consequences of repeated attacks.

Trousseau.—J. de Med. et de Chir. Pratique, vol. xxxiii, p. 150.

He lays down the following rules for the cure of obstinate intermittent fever. One ounce of yellow bark in powder is to be taken in a day, commencing from the termination of the paroxysm; in five days the same medication is to be repeated, then in eight or ten, and so for six or eight weeks. Trousseau has only seen this proceeding fail once, and then the fever ceased after the expulsion of an enormous mass of intestinal worms.

Thalwitzer.— Preuss. Milit.-arztl., Ztg. 17th, 1862.

He cured eight out of thirteen cases of tertian and quartan ague with strychnine, so effectually that there were no relapses; while out of thirteen cases treated with quinine only five remained free from relapses. He found gr. $\frac{1}{10}$ of strychnine given every evening for ten days, sufficient. If the remedy succeeds it usually prevents the third paroxsym from the date of its commencement. Gastric disorder was no contraindication.

Budd, W., M.D.—*On the occurrence (hitherto unnoticed) of Malignant Pustule in England.*

Budd defines the disease in question as one which begins as a minute vesicle, always seated on *some uncovered part*, excites a peculiar form of gangrenous inflammation, which spreads rapidly from the point first affected to the neighbouring tissues, gives rise to local changes of very uncommon aspect, and finally destroys life by general infection. It is well known on the continent, but has hitherto escaped recognition in this country. Yet the disease from which malignant pustule is derived occasions every year a large mortality in the live stock of the English farmer. Under various names it is identical with the "Charbon" or "Sang" of the French, and "Milz-brand" of German writers. It is known to be communicable (1) by direct inoculation; (2) by means of the skin or tainted hair of diseased beasts; (3) by eating the flesh of animals diseased in this way; (4) by the bite of insects which have been in contact with the bodies or carcases of diseased cattle. It is ascertained that the malignant pustule, when contracted by man, may be communicated by contagion to other men, or back to the animal by inoculation. Budd relates nine cases of the disease, three of whom were under his own care, and six under that of personal friends. He has obtained some particulars of fifteen other cases which have occurred within a few years in various parts of England. In two of the whole number (twenty-four) the affection was seated in the hand, in the rest it occurred on the face, and generally on or near the lip. In all the cases which were watched from their commencement, the disease first showed itself as a small red pimple, attended by severe itching, or by a peculiar hot stinging sensation. In this stage it resembled the bite of a gnat, and in two cases it seemed to be the actual result of the bite of that insect. In the course of a few hours the pimple was seen to be surmounted by a minute vesicle containing a little reddish-yellow serum. There then ensued a blackening and hardening of the immediately surrounding and subjacent tissues, which rapidly extending itself, ended by invading a large area. This process was attended by wide-spread swelling and infiltration of the neighbouring parts, which put on the aspect of malignant erysipelas. In several cases chains of inflamed lymphatics were seen passing down from the seat of the disease over the forehead and down the neck. In one severe double pleurisy occurred as a result of the general infection. In all there was everything to show that at its onset the malady was purely local. At first there was an entire absence of constitutional disorder, and several of the patients were well enough to follow their usual occupations for two or three days after the first appearance of the characteristic vesicle. When the general symptoms set in, they were chiefly marked by great and rapidly growing prostration, by frequent pulse, hurried breathing, and other well-known signs of septic poisoning. All terminated fatally within a period ranging from the fourth to the eighth day. When the disease began in the lip, which was the case in the great majority, the enormous prominence of the mouth, its hard and rigid state, and its almost black colour, caused a peculiar and hideous disfigurement, which was in the highest degree characteristic. In all the cases that were narrowly watched from the first, a second crop of vesicles made its appearance as the disease advanced in the immediate neighbourhood of the first. In the patients under Dr. Budd's own care, the breath exhaled a peculiar and most repulsive odour. The French and Germans seem to have established the important point that the disease, inevitably fatal as it is when left to itself, may be certainly arrested in its early stage by the use of powerful escharotics.

FURNEAUX, JORDAN.—Med. T. and Gaz., Sept. 27th.

He records a case of malignant pustule (pustular cellulitis ?) in the arm. The disease lasted eight weeks, and terminated fatally after amputation. The day of the operation the arm was greatly swollen, the skin extensively gangrenous, and in parts unaffected by the gangrene was covered with pustules resembling syphilitic lepra tuberculosa. The forearm, after amputation, appeared like a large fibrous tumour, enclosing the bones and muscles, which were unaltered, save that the muscles were a shade paler than usual. The vessels were healthy and pervious. The nerves were singularly much increased in size, the median being like the sciatic nerve of a child. At the sloughing and gangrenous spots the greyish, hard connective tissue became yellow, and enclosed here and there a few small masses of concrete pus; but it still remained tough, resisting, resilient, and dry. The hard grey parts consisted of nucleated (one, two, or three nuclei, mostly in process of division) cells, round, oval, and elongated, very variable in size. In the yellow pus-like parts the cells had undergone fatty degeneration. The lungs were œdematous, the left upper lobe consolidated.

GAUSTEN.—*On Malignant Pustule in Human Beings (Milz-brand vergiftung).* Wien, Wchnbl. xvii, 45, 46, 1861. Schmidt's Jahrb. vol. 115, p. 183.

The disease always commenced with the characteristic vesicle, or, in a single instance, with a dry gangrenous slough. In one case, where the disease proved fatal, the spleen was not found notably diseased. In several other patients who recovered there was no swelling of the spleen. In all these there were general symptoms, but not of a perilous kind. From the commencement of the disease to the appearance of the characteristic black spot there elapsed as a rule one or two days; the disease lasted in general five to six weeks. Gausten thinks the poison is not nearly so dangerous as it has been stated. Persons employed about the diseased cattle do not seem very liable to suffer. The flesh of diseased animals when boiled is eaten with impunity, and dogs eat it even raw without being infected.

Harper, R.—Lancet, Aug. 30th.

He records a case of malignant pustule affecting the penis, evidently induced by the contact of the hands, the man having been engaged in dressing diseased sheep. He recovered under a supporting and stimulating plan of treatment, but was seriously ill for several weeks.

Paget.—Med. T. and Gaz., Aug. 23rd.

He records a case of malignant pustule proving fatal in six days with acute carbuncular inflammation of the face and pyæmia.

Basham, W. R.—Brit, Med. J., Oct. 11th.

He records a case of animal-poisoning, probably farcy. The body was covered with pustules, the patient had vomiting, some diarrhœa, and pustules all over the body. He died exhausted after about fifteen days' illness. There was no history of exposure to the contagion of glanders.

Zimmermann, G.—*Four Cases of Glanders-poisoning from Volatile Contagion, forming also a Contribution to our knowledge of the course of Inflammatory Febrile Processes.* Virchow's Archiv. vol. xxiii, p. 209.

The veterinary surgeon B. and a cuirassier Z. made a post-mortem examination of a glandered horse. Fourteen days after this B. began to ail with symptoms, as of catarrh, depression, weariness, frequent shivering alternating with heat, headach, very hot flushed face, short breath, loss of appetite and constipation. Three or four weeks later Z. was taken with shivering and great oppression at the chest. Another cuirassier, D., who had been in Z.'s room and passed through B.'s, fell ill about three weeks later with symptoms of broncho-pneumo-typhus. A third cuirassier, K. had been admitted into the hospital for pneumonia, and four weeks after (having been discharged in the interval) sickened again with severe febrile disorder. He had been in contact with B. and Z. while in the hospital. In B. there was no nasal affection from the sixteenth to the forty-third day of the disease, lumps of bloody tough mucus were excreted from the swollen and dark red mucous surface. In Z. the nasal membrane was swollen and red, and epistaxis occurred. In D. and K. there was no nasal affection. In all there was well-marked broncho-pneumonia. In B. there was considerable erysipelatous eruption on the face, with roseolous spots on the trunk, and a sore formed on the sacrum. Z. had the erysipelatous inflammation of the face, and the roseola, and D. the same. The latter, however, had several subcutanous abscesses and bed-sores. In B. the fever was at first continued, and afterwards became intermittent and was arrested by quinine. There were symptoms of disorder about the heart, probably due to the formation of abscesses in its substance, and a similar one seems to have opened into the rectum, causing the evacuation of pus and blood. Just as convalescence was commencing, œdematous swelling of the lower extremities ensued, and lasted some time, owing, no doubt, to thrombosis of the left iliac or infer. cava vein. In K. the fever was at first continued, subsequently remittent, it seems to have yielded to quinine. Z. had considerable intestinal hæmorrhage which very greatly lowered the fever. In all there occurred more or less diarrhœa, and splenic enlargement. In all the kidneys were affected, the urine was albuminous, and deposited casts, renal and scaly epithelium. All had more or less delirium, stupor, and disturbance of the senses. During the existence of delirium the temperature was highest. The examination of the blood showed a considerable decrease of the solids in the entire liquid, and in the liquor sanguinis, with a corresponding increase of the water. The blood globules were especially diminished from about 173 per 1000 to about 140. The fibrine was somewhat increased, but its coagulating power diminished. The mineral constituents of the blood globules were somewhat increased, those of the liquor sanguinis diminished. The red blood globules had a great tendency to form rouleaux, and the white ones also to group themselves together. The author labours to prove that all fever necessarily depends on some pre-existing inflammation.

RADCLIFFE, J. N.—*On the Recent Epidemic of Diphtheria.* Lancet, July 12th.

Radcliffe states that the times of occurrence of the forerunners of the epidemic, the scattered and disconnected centres of manifestation, and its gradual growth, extending over a period of several years, would seem to point to developing causes slowly originating and acting over the whole or the greater portion of the surface of the kingdom, but culminating more rapidly in the southern than in the northern districts. Whatever were the causes leading to the epidemic, locality appears to have played but a very secondary part in their development; for in the period 1850-1859, within which diphtheria was manifested over the whole of this country, the disease may fairly be described as pandemic. Within that period it was epidemic in many parts of France; in 1850 it prevailed epidemically in Norway; in 1855 in Moscow; and in that year it was also observed as the most prevalent throat-affection in the French army in the Crimea; in 1856 and 1857 it was epidemic in California and various parts of the United States of America; in 1858-59 in Peru; and in 1859 in Australia and Nova Scotia.

WADE, W. F.—*Notes upon Diphtheria.* Lancet, Aug. 23rd.

Wade states sixty propositions, of which we extract some of the more novel and important. In some cases there is anatomical alteration of the spleen, which is solidified and of a pinkish-buff colour, with an unorganized hyaline, semi-solid material filling the interspaces of the trabeculæ. In all such cases purpura had existed during life, but there is no constant proportion between the severity of the purpuric symptoms and the amount of splenic change. The objects of treatment ought to be to eliminate the poison, and if possible to prevent the complications. Fluid nutriment is to be given in large quantities, and Pot. Iod. administered with Pot. Chloras, the former in doses of sixteen to fifty grains in the twenty-four hours. The patient is to be clothed in flannel and kept in bed. Wade has known no case of death where this plan of treatment has been carried out, nor of serious symptoms or secondary paralysis supervening. The exudation often diminishes with extraordinary rapidity. He has not observed marked amelioration from stimulants, nor from tonics and iron. He thinks we are justified in interfering with the throat-exudation when there is excessive fetor, or when it is so copious as to interfere with respiration or deglutition—not otherwise. In the treatment of paralysis Wade prefers Pot. Iod., Ferri Iod., and Bichloride of Mercury in bark to tonics. Blisters to the top of the sternum, if applied early, seem to exercise a most beneficial influence upon the paralysis of the palate. Paralysis may follow, as kidney complication may attend slight as well as severe cases of diphtheria.

GUILD, J. H.—*Diphtheria in the Country.* Amer. Med. Times, April 26th.

Guild finds that calomel is unnecessary, if not positively detrimental. That quinine is invaluable, and to have its full effect in the febrile stage should be given in doses of from five to ten grains twice a day. A rapid diminution of the fever invariably follows. In cases without febrile reaction, which generally prove the most dangerous, smaller and more frequent doses have a better effect. The daily quantity should be from gr. x. to ℈j. The albuminuria is to be treated by tannin, which also benefits the local disease. Insufflations of alum and tannin into the throat are preferable to caustics.

WIEDASCH.—*The existing Epidemic in East Friesland.* Deutsche Klinik, April 5th, 1862.

Wiedasch contends for the importance of the renal complication in cases of diphtheria, and says that all cases in which there is only laryngeal or pharyngeal exudation belong to the more favourable kind. He seems to disbelieve the existence of a primary poisoning of the blood, and of paralysis as its consequence. This he ascribes to the oligæmic or hydræmic condition.

GREENHOW, E. H.—*Clinical Illustrations of Diphtheria.* Brit. Med. J., Aug. 2nd.

Greenhow records cases illustrating the especial susceptibility of the members of particular families to contract this disease, and its greater tendency in such cases to prove fatal, also the relation between diphtheria and the milder cases of sore-throat which prevail simultaneously; the tendency of diphtheria to become, as it were, engrafted on other disorders; the occurrence of an eruption much like that of typhoid fever.

BEALE, L. S.—*Clinical Lecture on the Treatment of Rheumatic Fever, and on the Use of Alcohol in Serious Cases of this Disease.* Brit. Med. J., Jan. 25th, Feb. 1st.

Beale distinguishes between rheumatic fever complicated with pericarditis and pneumonia occurring in asthenic and in sthenic subjects. His remarks apply to the former class of cases; the treatment of the latter he admits should be different. In one instance he gives, ten ounces of brandy, besides chloric ether and sal volatile, with three grains of opium, two pints of beef-tea, and two eggs, were administered daily to a girl æt. 14, without the least alcoholic or narcotic intoxication. He argues that it is impossible that the treatment was merely negative, doing neither good nor harm, but that it was evidently essential to the successful result. On the other hand, he insists strongly, that alcohol is not to be given indiscriminately, and that the amount must be proportioned to the degree of prostration.

Dickinson, W., M.D., Cantab.—*On the Treatment of Acute Rheumatism, considered with regard to the Liability to Affections of the Heart under Different Remedies.* Med.-Chir. Trans., vol. xlv.

In eight cases where venesection was early resorted to there was endo- or pericarditis in three, and in one it was doubtful, so that only half the cases certainly remained free. The patients were in hospital for forty-one days on an average. Treatment by calomel and opium alone, or with saline draughts with or without nitre, seemed to have much the same effect. Out of twenty-four cases, there were six of inflammation of the heart or its membranes; and of these two proved speedily fatal. The average stay in hospital was thirty-seven days. Of twenty-one cases treated by opium in frequent doses, fourteen had heart-affection. Of seventy-four cases treated with nitre alone, seven had cardiac complication. The average stay in hospital of seven cases was twenty-seven days. Under saline treatment (less than ʒiij of vegetable salts in the day) the heart was affected in sixty-two cases in the proportion of 1 in 3·6. With partial alkaline treatment (ʒiij-ʒiv of the salts) no diminution of the heart-symptoms was observed, but the disorder terminated in rather a shorter time. With full alkaline treatment (℥ss to ℥jss of the salts daily) forty-eight cases passed through the disease with only a single instance of any cardiac affection. This appeared within twenty-four hours of the commencement of the treatment, and was not permanent. The average stay in hospital was twenty-five days, when colchicum was added, it was thirty.

Chambers, T. K.—Lancet, Aug. 23rd.

Advocates the alkaline treatment of acute rheumatism with Pot. Iod. in periosteal affection and opium to allay pain. Alkaline fomentations are applied to the affected parts, and leeches when the morbid action remains fixed in one situation, or when the heart is attacked. Great stress is laid on the patients being constantly wrapped in blankets, and the surface never being allowed to get chilled. Chambers finds that alkaline treatment shortens and alleviates the disease in the great majority of cases. It fails, however, in gonorrhœal rheumatism, and in irritative gouty disorder, and in cases where the periosteum and perichondrium are affected. During convalescence much caution in returning to the use of animal food is requisite.

Bouchut, H.—*On the Treatment of Acute Rheumatism by Veratrine.* J. de Med. et de Chir. pratiq. Edin. Med. J., Aug., 1862.

Bouchut gives to a child, æt. 12, one-tenth of a grain of veratria, and as much opium, for a dose, twice daily for the first day, increasing the number of doses by one daily, unless colic or vomiting call for the discontinuance of the remedy. The pulse speedily falls, and the articular symptoms yield.

LEBERT, H.; AUBURTIN, E.; PIDOUX; DURAND-FARDEL; TÜNGEL, C.; BOUILLAUD; BAUERMEISTER, G.; OPPOLZER; MÖLLER; OPPENHEIMER; PREVAULT.—*On the Pathology and Treatment of Rheumatism.*

Lebert, from his clinical experience at Breslau, gives a general account of the disorder and its various forms. He specially notices the cerebral symptoms which are occasionally met with, and often prove fatal. He finds these to be more frequent in males than in females in the proportion of 8 : 2. The season of the year, and the age of the patient, do not seem to have any notable influence. The most constant feature of the disorder is severe polyarthritis. The time of the appearance of the nervous symptoms is usually towards the end of the first, and in the second week, but no subsidence of the articular inflammation ensues, so that there can be no idea of metastasis. The nervous symptoms consist mostly of delirium of a quiet kind, with lucid intervals, with coma, which is not of long continuance, and often is absent. Pain in the head is not frequent, nor disorder of the senses; convulsive attacks occasionally occur. The patients are restless and excited, with prostration, apathy, increasing debility, and temporary syncope. The face is sometimes red, sometimes pale, and the expression much altered; the diseased joints retain usually to the last their increased temperature, tension, redness, and swelling. The pulse is always much accelerated. Death ensues, for the most part, without agony, either in the way of gradual asthenia, or rapid collapse, with coma after previous delirium. The duration of the nervous symptoms varies from six or seven hours to three days and a-half; in one case death took place after scarcely half-an-hour's collapse. The nervous centres and their membranes are found almost completely normal; in two out of ten cases there was some extravasation of blood in the membranes. Ecchymoses are found at times in the endocardium, the kidneys, and the splenic region of the stomach. Lebert rejects the view that these nervous phenomena are the result of overdosing with quinine or nitre, and believes them to depend upon some morbid alteration in the blood, the essential nature of which, or of acute rheumatism, he thinks, is quite unknown. Lebert advocates antiphlogistic treatment only in exceptional instances, and in a modified manner. Expectants he finds to render the disease protracted, and to favour the occurrence of grave complications. Nitre and tartar emetic, in divided doses, he is much inclined to recommend, especially in intense cases. Lemon-juice shortens the duration of the disease, lessens the fever and the frequency of the complications. Colchicum, veratria, opium, aconite, and propylamine he seems not to find of much efficacy. Quinine only produces a decided effect when carried to the degree of producing severe narcosis, and even then it is not lasting. In general, Lebert says, there is no specific for rheumatism, and treatment must be adapted to each individual case. This is true even of the nervous complications, which sometimes require cooling and derivative, sometimes analeptic and stimulating, measures. In monarthritis Lebert finds moxas, transcurrent cauterization, douches, local potash or sulphur-baths, the most effectual remedies. Auburtin believes that cerebral symptoms, occurring during acute rheumatism, are extremely seldom the results of the disease, but rather of large doses of quinine, a state of alcoholism, or of mental emotions. Tüngel says that the cerebral symptoms in rheumatism have nothing of a special character derived from the disease, but that they depend, as in all acute febrile disorders, on increased irritability, either individual or induced by external causes. He advises that the treatment should not be too lowering, and that mental repose should be maintained. Bouillaud distinguishes the form of Rheum. with permanent inflammation from the neuralgic, in which he believes the neurilemma to be extensively in a state of inflammatory congestion, and that this state is prone to be propagated by continuity of tissue to the nervous centres. Pidoux contends that rheumatism and gout, though not identical, have a common origin, and are essentially hereditary.

BASHAM.—Med. T. and Gaz., Dec. 20th.

He states that during the last twelve years he has treated all his cases of acute rheumatism with large doses of nitrate of potash, plentifully diluted, combined with the local application of a saline solution of the nitrate to the inflamed joints. The average duration of the disease is by this method considerably shortened, and rarely exceeds from three to four weeks. He does not believe that the nitrate at all lessens the formation of fibrine in the blood, but only that it retards or suspends the separation of the fibrine, and so prevents the exudation of this constituent, and its deposit in the tissues. He prefers nitre to the alkaline carbonates, because they interfere too much with the functions of the stomach.

JELLINEK, L.; MARTEN.—*Contributions to our Knowledge of Hereditary Syphilis.* Wien. Med. Halle, ii, 27, 1861. Pr. Ver. Ztg., N.F., iv, 21, 1861. Schmidt's Jahrb., vol. 113, p. 314.

Jellinek records a case from which the following conclusions must be drawn:—(1) A man affected with latent syphilis may infect his wife. (2) The wife, though presenting originally no phenomena of syphilis, may abort repeatedly, and at last give birth to a mature, viable child affected with syphilis. (3) No primary affection having existed previously, secondary symptoms finally appear in the wife.

HENNIG, C.—*Inherited Syphilis and Syphilitic Eruptions.* Jahrb. d. Kinderheilk, iv, 1861. Schmidt's Jahrb., vol. 113, p. 315.

Hennig's observations have led him to regard various eruptions as specific which are not usually regarded as such. He mentions eczema and eczema impetiginodes, as well as certain erythemata. Syphilitic parents, methodically treated with mercury, may beget both healthy and diseased children. Syphilitic women, who have borne several diseased children, at last come to have healthy ones.

Syphilis and Vaccination. Med. T. and Gaz., March 15th.

(1) There are several cases on record in which infecting chancre has succeeded the performance of vaccination, where the lymph has been taken from a normal pock upon the arm of a person the subject of constitutional syphilis. Such an occurrence is, however, extremely rare, and quite exceptional. (2) In such cases the vaccine disease and the syphilis have run the distinct course which would be anticipated from the great difference in the period of incubation of the two diseases, the local manifestation of the latter awaiting the completion of the course of the vaccine. (3) In all such cases the disease apparently imparted has been the primary disease, which has appeared at the spots punctured. In cases where secondary manifestations alone succeeded the vaccinia, the patient was syphilitic prior to the operation, the vaccine having acted merely in arousing the disease from latency. (4) It is probable, though not yet satisfactorily proved, that in some cases the transmission of the disease has been effected, as alleged, through the medium of the vaccine lymph as taken from a normal Jennerian vesicle, the virus of both diseases, vaccine and syphilis, being obtained at the same time from the same vesicle. In other instances it is possible that the virus of syphilis may have come accidentally into relation with the punctured spots. (5) Where numerous persons have been vaccinated from the same subject, those who were last vaccinated were mostly those who suffered from syphilis in the sequel. (6) It is not proved that in those instances blood mixed with the lymph was the immediate vehicle of the virus. The following cautions are suggested by the above statements:—To use every care in ascertaining that the child yielding the lymph, the parents, and the nurse are quite healthy. To see that the lancets are absolutely clean. To use only clear and limpid lymph, which flows spontaneously from the first and most superficial punctures of a vesicle. To vaccinate no child whose attendants have any syphilitic affection.

Percy, S. R.—Amer. Med. T., Feb. 8th.

He recommends the iodide or chloride of gold as having a very happy and salutary effect in cases of tertiary syphilis, where mercurials cannot be employed. The doses are from one-tenth to one-sixth of a grain of the iodide, and from one-sixteenth to one-eighth of a grain of the chloride *ter die.* They should produce increased fulness and frequency of the pulse, augmentation of urine, saliva, and perspiration, a moist tongue, but no disorder of the bowels. Too large a dose, or too long continuance, produces marked gastric irritation.

Holler, A.—*Cases of Congenital Syphilis with coexisting Deformity of the upper Incisor Teeth.* Bayer, ärztl. Intell. Bl. 7, 1861. Schmidt's Jahrb., vol. 113, p. 313.

The cases observed at v. Graefe's and Langenbeck's cliniques go to confirm Hutchinson's views; v. Graefe, however, leaves the corneal affection chiefly to the *vis medicatrix Naturæ.*

KÖBNER, H.—*Experiments and Remarks respecting Chancre-poison*, Deutsche Klinik, 47, 1861. Schmidt's Jahrb., vol. 114, p. 198.

Köbner states that the degree of dilution of the virus is of material consequence, and that this will account for the failure of various attempts at inoculation with blood and secretions of secondary affections.

WILLIAMS, T., M.D., F.R.S.—*On the Influence of Constitutional Syphilis in modifying the Character of Ordinary Disease.* Brit. Med. J., April 12th.

Williams relates four cases in which patients were recovered from more or less obscure and perilous states by anti-syphilitic treatment. He is of opinion that "one invasion of constitutional syphilis establish a 'diathesis,' that is, a peculiar tendency to a special form of disease in any or every part or organ of the body, which may manifest itself in the system of the affected person for at least very many years after. Under an apparent absence of all disease, the subtle taint exists, though veiled and concealed by the deceptive garb of health, and may be communicated by the parent of the child. Now here the question of diathesis (*i.e.* a latent vital power which is capable of imparting a special direction to all morbid processes which may occur in the body during the period of its prevalence) is brought in the clearest and most incontrovertible manner within the satisfactory bounds of direct demonstration." Williams aims chiefly at correcting this diathesis, and therefore advises a periodical recurrence to the use of anti-syphilitic remedies for years after the outbreak of the disease.

SIGMUND.—*On the Difference in the Syphilitic Virus, and the Distinctness of the two Forms of Disease.* Wien. Ztschr., xvii, 1861. Schmidt's Jahrb., vol. 113, p. 177.

After enumerating the distinctive characters of the two forms of disease resulting from the soft and hard chancre respectively, Sigmund proceeds to mention some groups of instances which seem to show that the distinctions laid down are not found to hold good invariably. (1) There are cases of ulcers which from their first commencement are simple and soft, but in their course gradually indurate, while the lymphatic glands, at first the adjacent, and then the more remote, enlarge, and general syphilis ensues. (2) There are also cases in a soft chancre forms a soft cicatrix, which subsequently indurates, and others in which the cicatrix itself does not indurate, but the next lymphatic gland, and then the more distant, and general syphilis ensues. (3) There are simple soft ulcers, which appear early, and set up in their vicinity at first similar ulcers, and subsequently pustules, and finally, papules, while, at a later period, general glandular affection appears, and constitutional syphilis. (4) There are ulcers and cicatrices with hard bases which are not followed by glandular disease, and general syphilis. Sigmund assures us that he has taken all possible care to exclude sources of error, such as the infection of a hard chancre with the virus of a soft, or the reverse.

GAMBERINI.—*On the Import of Blennorhœa existing with the so-called, Larvated, Inoculable Chancre.* Presse Med. 22, 1861. Schmidt's Jahrb. vol. 113, p. 179.

If gonorrhœal matter produces a pustule on inoculation there exists, according to Ricord, a chancre in the urethra. Now, as the hard chancre is non-inoculable, we must believe either that a soft chancre may give rise to constitutional syphilis, or that mere gonorrhœa may have the same effect.

On Pellagra. Brit. Med. J., Feb. 8th.

The disease has increased much of late years in various parts of Italy, apparently in consequence of the use of spoiled maize as food. The symptoms manifest themselves in the skin, the digestive organs, the muscular and nervous systems. The skin becomes erythematous, itching, hot, dry, thin, and of a dark-brown colour. The appetite is lost, there is dryness in the throat, pyrosis, and diarrhœa. Muscular debility becomes extreme, and the mental faculities more or less seriously impaired. The disease is most intense in spring, but in autumn abates considerably. The reason of this appears to be that corn is used for food during harvest.

REDER, A.—*On the Division of Chancre from Syphilis.* Wien. Ztschr., xviii, p. 57, 1862. Schmidt's Jahrb., vol. 115, p. 185.

Reder contends that syphilis is a completely distinct disease from chancre, and that it only coexists with it so commonly because both are communicated in the same way.

REPORT OF THE VIENNA HOSPITAL FOR 1859. Schmidt's Jahrb., vol. 116, p. 116.

Hermann regards the induration of chancre as an accidental modification, depending on individual peculiarities, or induced by treatment, as cauterization. Both hard and soft chancres have the same course for the most part, and require the same treatment. Maculous and papulous exanthemata he regards as local diseases, since they appear during the existence of the primary affection. Syphilitic exanthemata he is positive may result from blennorhagia or condylomata alone without any chancre. The more developed forms, pustules, &c., are either the results of the mercurial cachexia, or of syphilis treated with mercurials. In treatment he excludes entirely all mercurials used externally or internally, and uses only external remedies in pure syphilis, *i. e.* in such phenomena as are produced by the direct communication of the syphilitic poison to any structure of the body. Iodine he employs in all the forms of so-called constitutional syphilis, which he considers essentially hydrargyrosis. This, he states, is extremely prone to relapse, while pure syphilis has no such tendency.

WARBURTON BEGBIE, J.—*On Lead Impregnation, and its Connexion with Gout and Rheumatism.* Edin. Med. J., August, 1862.

Begbie confirms Garrod's views, but does not find that the administration of Pot. Iod. causes the elimination of lead by the urine.

POLLI, G.—*On the morbific Ferments, and the Treatment of the Catalytic Diseases produced by them with Sulphurous Acid.* Schmidt's Jahrb., vol. 116, p. 242.

Polli, believing that many diseases are caused by the presence in the blood of substances which act as ferments, has sought for means of arresting the fermentative process in the body. He finds the alkaline and earthy sulphites have this power, and that they are also perfectly innocuous and unirritating. Animals' bodies, who have had sulphites administered to them before death, resist decomposition longer than those of animals who have taken none. Animals dosed with sulphites resist the morbific influence of pus, putrid blood, or glanders fluid injected into their veins, while others similarly treated, with the exception of the protecting sulphites, become very ill or die. If an animal is inoculated with glandered pus, and soon after has sulphites administered, the inoculation wound shows only for a short time traces of diseased action, and cicatrizes; while, without the sulphites, a phlegmon forms which causes death in a few hours, or excites general infection with multiple abscesses, which usually ends in a few days with death, or at a later date with marasmus. Diseases in which the prophylactic or curative action of the sulphites is already ascertained, or may certainly be anticipated, are all such affections as depend upon a pathological ferment in any way, viz., the exanthemata and dartrosis (most skin diseases), rheumatic fever, ague, typhoid (miliary, petechial, &c.) fever, pyæmic fever, that from absorption of putrid matters (puerperal fever, &c.), epidemic and contagious fevers. [Proof of the actual efficacy of the sulphites in these cases seems deficient.—Ed.] Polli strongly recommends the sulphites as prophylactic remedies. He states that these salts, when given by the mouth, are found in the urine as sulphates and sulphites even twelve hours after their administration. Their therapeutic efficacy does not depend on the sulphurous acid which separates from them; they exert their ferment-arresting power as salts, and care must be taken that they are not mixed in the alimentary canal with lemon or orange juice, or that of other fruits, which would readily decompose them.

Richardson, B. W.—*On Anomalous Exanthems.* Lancet, Dec. 6th.

Richardson directs attention to certain ailments resembling more or less closely scarlet-fever or measles, but yet idiopathic and non-contagious. He thinks there exists an unknown form of accidental disease from absorption of some organic poison, generated during irregular digestion in the alimentary canal. This disorder affects especially the skin and mucous membrane of the alimentary tract, and developes eruption by paralysing the vaso-motor nerves of the vessels. It has no tendency to produce disease of the kidney or uræmia. Its course is variable; it may terminate at once and favourably by active purging or vomiting, or it may end fatally. It is probably most common in persons predisposed to rheumatism.

Williams, C. J. B.—*On the Successes and Failures of Medicine.* Lancet, April 5th, 12th.

Williams records his experience (1) of pneumonia with pleurisy. He considers this as a blood-disease, and adheres to the treatment by venesection and antimony, in moderate doses, in the incipient stage, and mercury in that of solid effusion. If, however, the type of the disease be asthenic, stimulants may be necessary from the first. Gangrenous abscess is probably the result of obstruction in the circulation and nutrition of some parts of the lung. Of eleven cases, eight recovered and three died. The cough in this affection is violently convulsive. Nitro-muriatic acid in full doses is advised, given with glycerine, and inhalations of creosote. In pleurisy, with copious effusion, he employs mercury and diuretics, and paracentesis, in appropriate cases. Bronchial dilatation is produced in a purely mechanical manner, by the action on the walls of the tubes of the air which is driven into them, but cannot penetrate the consolidated lung. The retained expectoration in these cases is commonly offensive. Asthma (true spasmodic) often gives rise to emphysema of the lungs, and may itself be caused either by pulmonary consolidation or tuberculization (partial), and enlarged bronchial glands, or by some abnormal state of the blood, as when it alternates with eczema or gout. Stramonium and belladonna Williams has ascertained by experiment to be the proper antagonists of spasmodic contraction of the bronchial tubes. In phthisical hæmoptysis, the worst cases are those in which the disease is situated near the root of the lung, dulness being marked in the interscapular space. Ice to the chest will control hæmoptysis, but sets up very injurious violent reaction. Some of the worst cases of phthisis, attended with rapid inflammatory change, have occurred after the use of ice in this way. Among 7000 cases of phthisis, the average duration of life has been four years; the immense majority have terminated fatally. Of the whole number, twenty-four only have appeared cured; in thirty-one a partial cure has been obtained; and in twenty life was much prolonged.

JEWELL, W.—*Trans. of Col. of Phys. of Philadelphia.* Amer. Q. J. of Med. Sc., April, 1862.

He states that the increase of deaths for 1861 amounts to 2900, being 25 per cent. over those of the former year. This increase is in part apparent, owing to more perfect registration, but is chiefly ascribable to the great prevalence of smallpox, scarlet-fever, and diphtheria. These three diseases have prevailed as epidemics simultaneously, uninfluenced by the seasons of the year or the extremes of temperature. The total number of deaths from these diseases amounted to 2450, viz., from scarlatina, 1190; variola, 758; and diphtheria, 502; constituting nearly four-fifths of the increase of deaths over those for 1860, and falling with peculiar violence and fatality on the infant population. The more healthy and pleasant rural districts were visited by these diseases, though not by any means so severely as the crowded and unhealthy parts of the town.

DOIG, C. D.—*The Causes and Treatment of Erysipelas.* Med. T. and Gaz., Sept. 27th.

Among 1000 cases of all kinds occurring in out-door dispensary practice at Leith, there were thirty of erysipelas, in the year 1852. In 1851 there were 82 cases among 7640 in Edinburgh, and, again, 75 among 8624 during 1855. The disease is more prevalent during the six colder months of the year than in the six warmer in the ratio of 94 : 63. The mortality among 114 cases treated in Edinburgh and London was twelve.

KIREJEFF, A.—*On the action of Cold and Warm Sitz Baths on Healthy Persons.* Virchow's Arch., xxii, 5, 1861. Schmidt's Jahrb., vol. 114, p. 180.

The general results are that both cause increased tissue change, augmenting the quantity of the urea and uric acid, but especially that of the chlorides and other inorganic constituents, excepting the phosphoric acid. The amount of the urine and the intestinal excreta was not changed, nor, for the most part, was the imperceptible transpiration. The above changes solely proceeded from the subsequent action of the baths on the organism. The immediate effects from the warm baths were slight increase of the temperature, diminished perspiration, and greater fulness of the pulse. The cold baths caused some irregularity of the respiratory movements, diminution of the cutaneous evaporation, contraction of the cutaneous muscles, and especially cooling of the body.

REUMONT, A.—*Fresh Observations and Experience respecting the action of the Sulphureous Thermæ of Aix-la-Chapelle in Syphilitic Disorders.* Deutsche Klinik., April 19th, 26th, May 3rd.

Reumont holds that these baths are no specific against constitutional syphilis, but that they are an excellent means of diagnosis in doubtful cases by causing unequivocal signs of the disease to appear. They also prepare the system very advantageously for the action of other remedies, or powerfully assist their action when combined with them. They remove lingering traces of syphilitic disorder, especially on the skin, and get rid of the injurious effects of mercury. In diseases of bones and of the periosteum the thermæ, in combination generally with Pot. Iod., are of essential service.

ASPLAND.—Med. T. and Gaz., Sep. 13th.

He records various cases of severe disease, as ague, diabetes, marasmus, empyema (?), treated successfully by carbazotic acid, or carbazotate of ammonia. It tinges the skin and urine of a deep orange colour, which lasts two or three weeks after the discontinuance of the remedy. The dose is gr. j–iv, *ter die* of the acid.

RICORD.—J. de Med. et Chir. Pratiq., vol. xxxiii, p. 309.

Apropos of a case of ulcerative destruction of the soft and hard palate in a girl, æt. 14, free from all other signs of disease, he maintained the view that the disease was the result of syphilis in its tertiary period communicated hereditarily.

HARDEY, R.—*On the General Disuse of Venesection in the Treatment of Acute Diseases.* Brit. Med. J., Nov. 1st.

Hardey avers his belief in the view that disease in its varied characters is modified by cyclical periods, and finds much less need for venesection now than he did twenty-five or thirty years ago. He is, however, also of opinion that the well-timed use of systemic bleedings is one of the best remedies we possess in the *early* treatment of acute disease.

Meryon, E.—*Carlsbad Water in Gout.* Brit. Med. J., Feb. 15th.

Meryon is disposed to think that Carlsbad water has well-nigh, if not quite, as special an influence on gout as quinine has on ague. He uses it as a prophylactic, and relates a remarkable instance of its success.

Richardson, B. W.—*Further Researches on the Therapeutic Properties of the Peroxide of Hydrogen.* Brit. Med. J., March 22nd.

Richardson finds this remedy valuable in chronic and subacute rheumatism, in pulmonary congestion from valvular disease, in strumous swellings, in mesenteric disease, in jaundice, in old bronchitis, and specially in pertussis. In some instances, where it had been pushed freely, profuse salivation occurred.

Duchesne-Duparc.—*A New Remedy for Adiposity.* Med. T. and Gaz., April 19th.

Duchesne-Duparc gives a decoction or an extract of the fucus vesiculosus with great effect. The dose of the latter is forty-eight to sixty grains daily. In two or three weeks the action of the remedy shows itself by increase of the appetite, diuresis, and emaciation.

Fonssagrives and Leroy de Mericourt.—*On the Nosological position of Beriberi.* Arch. génér. xviii, Sept. 1861. Schmidt's Jahrb., vol. 113, p. 172.

This disorder is endemic on the coasts of Arabia and India, and especially in the Bay of Bengal. It is characterized by general dropsy, a rapid course, non-albuminuria, weakness, and loss of sensibility in the lower limbs. The dropsy commences as anasarca and extends afterwards to the serous cavities. Venesection in the acute form, and purgatives and diuretics are advised.

Case of Death from Polysarcia.—Buffalo Med. J., Brit. Med. J., Feb. 8th.

The patient, a cook, a coloured man, æt. 41 years, weighed 350 lbs.; his height was five and a-half feet, and his circumference four feet ten inches. The lungs were sound, but very small, the heart and kidneys large.

Druitt, R.—*On Intemperance and its Prevention.* Med. T. and Gaz., Jan. 11th; April 12th.

Druitt recognises bulimious dyspepsia, referrible to some morbid condition of the *par vagum*, as a frequent cause of intemperance. It is often produced by circumstances which occasion great nervous exhaustion. Debility, with mental depression, is another frequent cause. The free administration of wine or spirits during a disease does not leave the slightest craving for it afterwards. It is, however, very necessary when recommending stimulants, especially to females, to define the exact quantity, and the times, and the food that should be taken with them. Various mental affections, as nervousness, grief, mental anxiety and stagnation, primary hysteria, moral insanity, all conduce to habits of taking stimulants, which end in intemperance.

NERVOUS SYSTEM.

Nash, J. P.—*Report of Five cases of Paralysis in India.* Lancet, Feb. 15th.

Griesinger.—*Case of Cure of Hæmatoma of the Dura Mater.* Arch. d. Heilk. III., 1, 1862.

Demme, H.—*Case of Carcinoma Cerebelli.* Memorab. a. d. Praxis, VI, 1861. Schmidt's Jahrb., vol. 114, p. 26.

Radcliffe, C. B., M.D., and Lockhart Clarke.—*An Important Case of Paralysis and Muscular Atrophy, with Disease of the Nervous Centres.* Brit. & For. Med.-Ch. Rev., July 1862.

Roberts, W., M.D.—*Two Cases of Double Paralysis of the Portio Dura and Portio Mollis of the Seventh Pair.* Brit. Med. J., Oct. 4th.

Lecoq-Bourdon, H.—*Three Cases of Ataxie Locomotrice Progressive, one with Careful Autopsy.* Arch. Génér. de Méd., p. 689, 1861, and p. 513. Brit. & For. Med.-Ch. Rev., Jan. 1862.

Colin.—*Case of Hæmorrhage of the Spinal Cord.* L'Union, 40, 1862. Schmidt's Jahrb., vol. 116, p. 43.

Hooper, J., M.D.—*Intractable case of Neuralgia cured by Oxygen.* Brit. Med. J., March 15th.

Rey, H.—*Neurosis of the Nasal Branches of the Spheno-Palatine Ganglion.* Gaz. Méd. d'Orient, v., 1861. Schmidt's Jahrb., vol. 113, p. 167.

Gualla, B.—*Case of Violent Facial Spasm cured by Injection of Curare.* Gazz. Lomb. 5, 1861. Schmidt's Jahrb., vol. 116, p. 177.

Delahousse.—*Case of Unilateral Cutaneous Anæsthesia in a Male, cured by Sulphur and Vapour Baths.* Gaz. des Hôpit., 71, 1862. Schmidt's Jahrb., vol. 116, p. 178.

Malmsten.—*Softening of the Spinal Cord from a Tumour.* Hygiea, vol. 21. Schmidt's Jahrb., vol. 114, p. 302.

Fuller.—*Effusion of Blood into the Spinal Canal in a Case of Chorea.* Lancet, May 17th.

Hillier.—*Cases of Chorea.* Med. T. & Gaz., April 12th.

Stoffella, E.—*Case of Chorea with Autopsy, Connective Tissue Formation, and Softening in the Spinal Cord.* Wien. Wochenbl. xvii, 1861. Schmidt's Jahrb., vol. 113, p. 160.

Paget, Cock, Bryant.—*Cases of Neuroma.* Med. T. & Gaz., May 3rd. *Cases of Recovery from Epilepsy under various Treatment.* Med. T. & Gaz., Aug. 2nd.

Smith, L. J., M.D.—*Cases of Spurious Hydrocephalus, with Remarks.* Amer. Med. T., May 24th.

Flint.—*Report of Cases of Meningitis treated with Potass. Iod.* Amer. Med. T., June 14th, 21st.

Goodwin, J. W.—*Three Cases of Syphilitic Disease of the Brain or its Membranes.* Lancet, July 19th.

Risdon Bennett, J.—*Clinical Lecture on a Case of Echinococcus Cyst in the Brain, Epileptic Fits, Amaurosis, Inability to Stand, Death, Autopsy.* Med. T. & Gaz., Jan. 25th.

Török.—*Case of Red Softening of the Cerebellum.* Wiener Med. Wochenschr., Nov. 2nd, 1861. Brit. Med. J., April 26th.

Jasinski.—*Large Abscess in the Brain without Symptoms.* Wien. Med. Halle, ii, 26, 1861. Schmidt's Jahrb., vol. 113, p. 37.

Huber.—*Case of Multiple Fibro-plastic Tumours in the Cerebral Hemispheres.* Bayer. ärztl. Intell. Bl., 25, 1861. Schmidt's Jahrb., vol. 113, p. 37.

Voisin, A.—*Two Cases of One-sided Epilepsy after Abuse of Alcohol.* Gaz. de Paris, 10, 1861. Schmidt's Jahrb., vol. 113, p. 39.

Paulsen, J. P.—*Caries in the Wall of the Frontal Sinus, Rupture of the Dura Mater.* Hosp. Tid., No. 12, 1861. Schmidt's Jahrb., vol. 114, p. 186.

Billroth, Th.—*Peculiar Gelatinous Degeneration of the Cortical Substance of the Cerebellum, with Remarks on the Relations of Diseases of the Vessels to Chronic Encephalitis.* Arch. d Heilk, iii, 1862.

Neuschler.—*Case of Paralysis of the Serratus Magnus.* Arch. d. Heilk. iii, 1862. Schmidt's Jahrb., vol. 114, p. 187.

Brown-Sequard.—*Case of Apoplexy of the Pons Varolii; Paralysis of the External Recti, and of the Face and Trunk as to Motion and Sensation; Gradual Recovery.* Med. T. and Gaz., April 26th.

Cock.—*Case of Ulceration of the Palm of the Hand in a Wood-Sawyer from Defective Innervation.* Med. T. & Gaz., April 26th.

Empis, A.—*Case of Catelepsy.* Gaz. des Hôpit., 147, 1861. Schmidt's Jahrb., vol. 114, p. 28.

Russell, J.—*Cases of certain Painful Affections of the Lower Extremities.* Brit. Med. J., July 12th, Aug. 2nd, 30th.

Gibson, D.—*On a Case of Paralysis with Loss of Speech from Intestinal Irritation (occasioned by Worms); Recovery.* Lancet, Aug. 9th.

Trousseau.—*On Graves' Disease (Exophthalmic Goitre).* Med. T. & Gaz., Aug. 2nd.

Bang, O.—*A Lecture on Paralysis (Translation from the Swedish).* Dublin, Q. J. of Med. Sc., Aug. 1862.

Kidd, C., M.D.—*How to Prevent Chloroform Accidents.* Brit. Med. J., Sept. 20th, Oct. 4th.

Jackson, J. H., M.D.—*Report of Cases of Disease of the Cerebellum, by* Brownfield, Shann, *and* Gull. Med. T. & Gaz., Aug. 30th.

Jackson, J. H., M.D.—*The Ophthalmoscope as an Aid to the Study of Diseases of the Brain.* Med. T. & Gaz., Dec. 6th.

Roser.—*On the Narcotic Treatment of Delirium Tremens.* Arch. d. Heilkunde, 1861, p. 191. Med. T. and Gaz., Feb. 8th.

Roser is of opinion that patients are lost by the timidity of practitioners in prescribing opium in large doses, under fear of poisoning. The vital indication is to quiet the delirium; and this is only to be done by energetic doses. We should give at once two grains of morphia, and repeat one grain hourly until the pupils are strongly contracted, and the respirations descend to ten, eight, or even six a minute. The appearance of a patient so treated is alarming, but in such deep narcotising lies his safety.

MACKENZIE, M.—*Digitalis in Delirium Tremens.* Lancet, March 8th.

Mackenzie states that three cases of delirium tremens have come under his notice in which digitalis was given in ℥ss doses of the tincture. In two of these death occurred; and in the other the digitalis had to be abandoned, and recourse had to stimulants and opium, under which the patient recovered. In the first of the fatal cases four ℥ss doses of the tincture, and a last dose of ʒij were given. After the last two or three doses he became very excited, fierce, and fearless, having been previously timid and tremulous. After a short but violent struggle he suddenly expired. The heart was found very flaccid, and its cavities did not contain half-an-ounce of blood. In the second case digitalis produced the same effect of changing a state of timidity into the fury of acute mania.

KINNEAU; FERNELEY.—*Capsicum in Delirium Tremens.* Lancet, March 8th, 15th.

Both these gentlemen have found this mode of treatment very successful. Ferneley makes an infusion with ℈ij to aq. ferv. Oj, adding sugar and citric acid to suit the taste.

WEAVER, J.—*Treatment of Delirium Tremens.* Brit. Med. J. April, 19th.

Weaver advocates the administration of opium in doses sufficient to procure sound sleep. He gives the details of one case in which almost two ounces of opium were taken in the space of eight days. The last dose, which proved effectual in procuring sound sleep, was ʒij of solid opium, with ant. pot. tart. gr. ij. Weaver alludes to five other cases which he treated with doses of opium varying from ten to thirty grains, and which all recovered.

SAYRE, L. A., and SMITH, O.—Amer. Med. T., March 8th.

Record each a case of delirium tremens successfully treated by the iced bath. It has a powerful sedative effect, but may produce depression verging on syncope.

ECHEVERRIA, G.—*On the Proximate Cause of Delirium Tremens.* Amer. Med. T., May 10th.

Echeverria is of opinion that cerebral hyperæmia is the proximate cause of delirium tremens, both when the disease supervenes upon a debauch, and when it occurs upon the withdrawal of the alcoholic stimulus in persons accustomed to it. He accounts for the production of cerebral hyperæmia in this way: "The increased activity of circulation from constant alcoholic stimulus gives rise to a lengthening and dilatation of the cerebral blood-vessels. Now, as soon as the withdrawal of the stimulus diminishes the force of circulation, a stasis of blood takes place, and we have cerebral hyperæmia, the true source of the mental disturbances." He finds that fatty degeneration takes place in the cerebral tissue, and that the capillaries become varicose and lengthened, and have their coats charged with granular exudations of a fibrinous nature. These changes show themselves first in the anterior part of the cerebral hemispheres, in the optic thalami, and in the cerebellum. In the vast majority of uncomplicated cases the expectant treatment is the most successful, and the only rational. But in inflammatory or abdominal forms of the disease, emetic, purgative, and antiphlogistic means are to be employed. In some cases pot. iod. is very serviceable.

PIRRIE, W.—*On Delirium Tremens and its Treatment.* Edin. Med. J., October, December.

Pirrie argues that delirium tremens is a specific toxæmia from alcoholism, and does not consist of the mere nervous irritation and exhaustion consequent on the sudden want of a favourite stimulus. He insists that many persons cease from alcoholic excess and become sober, without suffering in any degree from the disorder. Traumatic delirium he looks upon as a paroxysm accelerated in its occurrence by the shock given to the nervous system. Pirrie assents to the view that a paroxysm of delirium tremens naturally tends to terminate in a spontaneous and salutary sleep in about sixty to seventy-two hours. He reviews the several methods that have been recommended for the treatment of the disorder, and comes to the conclusion that an eliminant and supporting plan is most rational and likely to prove successful. Camphor and ammonia with some saline diuretic are the medicines he would administer, with strong broths for nourishment. The stimulants, however, need not be given if the cutaneous surface be warm and moist, and there be no notable asthenia. Pirrie looks on the profuse perspiration as a favourable occurrence, procuring depuration of the blood from the poison, which he believes to be the cause of the disease. He reports eleven cases of his own, of which four were treated by opium and alcoholic stimulants, and two died, while two had a tedious recovery. The other seven cases, all severe ones, treated by the eliminative and supporting plan, all recovered within the fourth day.

LAYCOCK, T., M.D.—*Practical Notes on Diagnosis, Prognosis, and Treatment in Cases of Delirium Tremens.* Edin. Med. J., Nov. 1862.

Laycock's experience during the last four years strongly confirms his previous statement as to the much more successful results of treatment according to an expectant and rational method than when opium and stimulants are freely administered. Of forty cases only one has terminated fatally. In this case continuous epileptic fits supervened on a course of drinking and licentiousness. He replies to the objection raised by some, that his cases were of a miniature kind, that Dr. Ware of Boston arrived at the same results more than twenty years ago, when there could be no question of change of type, and that Dr. Peddie, in Edinburgh, during the ten years from 1844 to 1854 treated upwards of eighty cases, many of them severe ones, in the same way with uniform success. Laycock thinks that the diagnosis of the disease is imperfect, and the pathological anatomy altogether erroneous. The disorder may take the form of hypochondriasis, melancholia, delirium, or mania, according to the predominant mode of mental disturbance. The typical form, he says, offers the pathognomonic symptoms of an acute melancholia. In the matter of treatment he counsels that at first only an aperient should be given, or perhaps an emetic, and no mechanical restraint attempted. After the direct effects of the intoxicant have passed off the patient should be carefully examined, to ascertain the condition of the principal organs, and the true character of the hallucinations. If the mental disorder is the reverse of melancholia the case is not one of delirium tremens. When the hallucinations and delusions are characteristic in the beginning, the apprehensiveness and restlessness not strongly marked, and the character of the mental disturbance gradually changes into the aggressive, sullen, or manaical kind, the case is likely to end in chronic disease. When the mental disorder is like that of acute mania, and the paroxysm has been excited by a small excess in a predisposed person, the case is likely to end in a few days under simple treatment. When furious delirium succeeds to the melancholic condition in a young patient who has been without food or sleep for some time the prognosis is favourable in the absence of cerebral predisposition, and in proportion to the youth of the patient. Hallucinations as to perceptions of common sensation, especially of the skin of the trunk, occurring in a typical case afford a favourable prognosis, and sleep will come without a hypnotic; if, however, the illusions are referred to the head the prognosis is more doubtful, and the case may end in insanity. When the hallucinations are gloomy and monstrous, without terror or tremors, and the drinking bout has been preceded by symptoms of insanity, the case is likely to become chronic as developed insanity ending in dementia. In melancholia with auditory and ocular illusions, but without tremors, the prognosis is unfavourable, when the delusions are unfounded suspicions, jealousies, and the like, and the patient is sullen. Cases of melancholia with gastric disorder, if free from important cerebral or visceral complication, end favourably in a week. If there be some complication, though not of a serious kind, the case will terminate favourably in fourteen days, even though the delirium be more aggressive than melancholic. Profound melancholia after abuse of distilled liquors or opium, or tremors and convulsive attacks after abuse of fermented drinks or bitters, admit a favourable prognosis. Laycock disbelieves that abstinence from habitual stimulants will cause delirium tremens. He thinks the attack is brought on in all cases by morbid causes of a general character, such as induce a feverish cold, &c. Alcoholic stimuli may be administered in all asthenic cases of delirium however caused. With regard to opium, Laycock thinks that in some drunkards its operation may be so delayed that a cumulative effect is produced, that it is never wholly safe to administer it for the express purpose of procuring sleep, and that the state of the pupils should always be watched. Mental hypnotics are singularly successful in cases where there is an hypochondriac anxiety for sleep. Tartar emetic is chiefly indicated in cases where there is some inflammatory complication, especially pneumonia, however trifling. It is advantageous also in the early period of the more sthenic cases, and where the mental disorder more nearly approaches insanity or mania. When there is depression Tr. Opii in ♏ x-xv doses may be given with ♏ xv-xx of the Liq. Ant. Pot. Tart. If there be evidence of gastric inflammation suitable dietetic and medicinal means must be employed. Chloroform may be of use in very violent cases.

Ramskill, J. S., M.D.—*Clinical Lectures on Epilepsy.* Med. T. and Gaz., July 19th, Aug. 30th, Nov. 22nd.

Ramskill considers that all epileptic cases approximate more or less perfectly to four different varieties. (1) Where loss of consciousness only apparently constitutes the fit. (2) Where, with loss of consciousness there is some local tonic spasmodic movement. (3) Where, in addition to loss of consciousness, there are general tonic, and afterwards chronic convulsions. (4) Where, without any loss of consciousness, there are general or partial convulsions. The first two constitute the *petit mal*, and the first of these is rarely met with. After reviewing the various theories of epilepsy, Ramskill details that of Brown-Séquard, which he adopts. This physiologist believes that epileptic fits are always the result of an excitation of the cerebro-spinal axis, and has proved, by experiments on animals, that no part of the encephalon is necessary for the production of epileptiform convulsions except the medulla and pons Varolii. He considers that the reflex faculty of the cerebro-spinal axis is composed of two elementary vital properties, one of which he calls reflex excitability; the other, reflex force. This reflex excitability is increased in epilepsy to a greater or less degree, while the reflex force may be diminished. Besides these there is often a special kind of excitation acting on the nervous centres. The loss of consciousness depends on contraction of the cerebral arteries in the earlier part of the attack, and subsequently on the circulation of black blood in the cerebral vessels, which is unfit to maintain the nutrition of the nervous centres. In all true cases of epilepsy there is some warning or aura of the fit; it may be very slight and imperceptible to the patient, and as improvement takes place it becomes more developed and decisive. It is of great importance to detect the aura, and, when this is difficult, it is worth while to apply a ligature to each limb successively shortly before the usual time of recurrence, or to galvanise different parts of the body with a strong current and dry conductors. If the aura can be localised, the surface may be blistered, and chloroform liniment applied to the denuded surface. Or a ligature may be applied, and if the aura consist of crampy sensation, forcible extension of the part may be practised. If these means alone fail, they should be tried again in conjunction with a circular blister. If the disease is still refractory, the actual cautery to the part should be tried, or the moxa: or the nerves going to the part should be divided; or, if there be an old cicatrix, this should be excised. Several illustrative cases are given, and examples of auræ. Cases in which some morbid internal sensation takes the place of aura are more common than those where there is an external. The heart, stomach, œsophagus, or colon, may appear to be the seat of these sensations initiating a paroxysm. The object of treatment should be to diminish the morbid excitability of the nervous centres, and to remove any peripheral cause of irritation. Ramskill's own observations go very much to confirm those of S. V. de Kolk as to the morbid changes taking place in epilepsy. The vessels of the medulla oblongata are found much distended, and the surrounding tissue more or less indurated or softened, the result of intense congestion during the fits, and of faulty nutrition in the intervals. After relating a case successfully treated by belladonna, he gives his view as to the rationale of its action.

He regards it as a stimulant to the sympathetic, the motor nerve of the blood-vessels, whose morbid dilatation it tends to counteract. He has, for the most part, used belladonna hitherto, commencing with one-eighth grain of the extract and increasing the dose to one-fourth or one-third of a grain, which usually produces some physiological effect. No amelioration may occur for some weeks, but the system must be kept slightly under the influence of the remedy. Valerianate of atropia may be used in place of belladonna in a commencing dose of one-hundred-and-twentieth of a grain.

WESTPHAL, C.—*On the Employment of Tracheotomy in Epilepsy.* Annalen des Charité Krankenhauses, vol. ix. Jour. of Mental Sc., July, 1862.

Westphal opposes the practice of tracheotomy as a curative proceeding in epilepsy. He contends that in most epileptics the signs of trachelismus—the venous fulness and redness of the countenance follow upon the convulsions, and are secondary to them, and at the close of the fit there is no sudden pallor of the previously suffused countenance. Westphal has seen a case of complete occlusion of the glottis by a wedge-shaped piece of food without any convulsions supervening.

READ.—*Case of Trephining in Epilepsy; Cure.* Amer. Med. T., Brit. Med. J., Feb. 8th.

J. T., æt. 28, had received, two years before, a blow on the side of the head, depressing the anterior inferior angle of the parietal bone. This had occasioned frequent epileptic paroxsyms, embarrassment of speech, and increasing mental incoherence. Three months after the operation he had perfectly recovered.

RUSSELL, J., M.D.—*Hereditary Epilepsy.* Brit. Med. J., March 8th.

Russell gives the history of a family consisting of the parents and nine children. The father is healthy, the mother is very nervous and excitable, and had an insane sister and an epileptic brother. Most of the children strongly resemble the mother. The eldest son has not had epilepsy, but suffers with nervous symptoms little removed from insanity. The eldest daughter is not epileptic, but is very unlike the others, and is highly strumous. Of the others, each has become epileptic on arriving at a certain age: the girls at eight or nine, the boys at thirteen or fourteen. A post-mortem examination in one case showed no disease of the brain or cord, the latter was, however, softer than natural, but equally so throughout.

BRISTOWE, M.D.—Med. T. & Gaz., Jan. 11th.

Records a case of epilepsy, in which the fits mostly occurred at night, but were also produced during the day, when he was made to move or get out of bed. The attacks increased in severity until Liq. pot. arsen. ♏v *ter die* was given, when they immediately ceased for eight days. A relaspse occurred after he had been visited by some friends, and then he remained free for thirteen days to the date of the report.

Wilks and Murchison.—Med. T. and Gaz., Jan. 4th.

Record cases of syphilitic epilepsy cured by the administration of potass. iod.

Ramskill.—*On Oxalate of Cerium in Epilepsy.* Med. T. and Gaz., Jan. 4th.

This remedy has proved serviceable in some cases, having as an aura, or premonitory symptom of the attack, some commotion of the stomach or duodenum evidenced by a feeling of agitation at the epigastrium, accompanied by a sense of sinking, fainting, and disordered movements, but unconnected with palpitation. It has not been of use in any other forms of the disease. Ramskill supposes the aura to depend upon failure of action in the splanchnic ganglia.

Payne, A. J., M.D.—*On Epilepsy as a result of Malarious Affection.* Indian Annals, No. 14, p. 597. Brit. and For. Med.-Ch. Rev., Jan. 1862.

This form in its paroxysms resembles epilepsy, but admits of a much more hopeful prognosis. It follows, but sometimes after a long period, on malarious infection, which may not have shown itself in paroxysms of ague at any period; so that the convulsive seizures may become the only active symptoms. Cases of infantile convulsion are frequently seen in Calcutta, which stand in very close relation to malarious epilepsy. In all of these quinine affords a cure. Payne considers that an hydræmic state of blood is the most important element in the pathology of this class of disorder. He praises the nitric-acid bath as the best therapeutic agent, and corroborates Dr. Hammond's statement of its antiperiodic action.

Anstie.—*On Individual Remedies in Epilepsy.* Med. T. and Gaz., April 5th.

In twelve cases oleum morrhuæ was employed alone, in three it failed, and in three it produced some benefit, and in six it appeared to cure. Quinine was useless in two cases, cured in three, and was of much benefit in one. Phosphorus and iron have been of some service. Of sedatives, opium, henbane, sulphate of aniline, and belladonna had been tried, the latter without any encouraging results; while the three former certainly seem to have the power of delaying the fit, or mitigating its severity. Anstie gives the preference to the aniline, gr. j. *ter die*, with gr. j. additional on the occurrence of any prodromata.

Ogle, J. W.—*On a proposed Remedy (a species of Galium) for Epilepsy and other Spasmodic Affections.* Lancet, May 10th.

At Tain, in the Drôme department in France, the expressed juice of the galium is administered annually in the months of May and September, when the plant flowers, to 800 or 900 patients. They fast for twenty-four hours, children for twelve, before taking in the morning ℥iv-v of the juice. After this a light meal is given, and then they return to a light diet, from which coffee, wine, beer, liqueurs, dark-coloured and cured meats are excluded. After leaving Tain, the remedy is still continued in the form of tablettes, which are to be taken in increasing doses till they purge slightly, then omitted for eight days, and then resumed. An infusion of wild valerian root, or of orange leaves is to be taken when the galium is omitted. Some patients are treated also by other remedies for chlorosis or scrofula. In some cases cauteries and setons are employed. It is stated that it is only one part of the locality (the Hermitage mountain) which produces the herb endowed with the true anti-epileptic properties. Ogle cites many authorities, ancient and modern, in favour of the anti-epileptic properties of the galium. He has also had an extract of a liquor prepared from the fresh herb as grown in Lincolnshire and near Paris, and has tried their efficacy on several patients, both epileptics and others of similar nature. The result so far, has been on the whole more favourable for the remedy than for any other that he has tried in the same period of time, whether the number of the seizures on the one hand, or their strength or complication on the other, be considered. He recommends the remedy as worthy of further trials.

De Courdoux, M.—Glasgow Med. J., April, 1862.

Finds a solution of ʒiv of camphor in ℥j of chloroform effective as a local anæsthetic. The part is to be surrounded with lint dipped in this liquid and covered with water-proof cloth for twenty minutes. Fournier recommends the vapour of a mixture of pure acetic acid and chloroform.

Michéa.—*Physiological effects of Atropine, and its employment in Epilepsy.* Gaz. des Hôpit. Ann. de Thérap., 1862, p. 8.

Michéa states that atropine and its salts act chiefly on the cerebro-spinal nervous system, depressing and arresting the functions of its several parts in a successive non-simultaneous manner. They affect the motor-nervous apparatus before the sensory, and lastly the cerebral hemispheres. The muscles which are first affected by epileptic convulsions are nearly the same as those which are first and specially affected, but in an opposite (paralysing) manner, by atropine. Valerianic acid seems to intensify the action of atropine.

Botkin, S.—*On the Physiological Action of Sulphate of Atropia.* Virchow's Archiv. xxiv. p. 83, 1862. Schmidt's Jahrb., vol. 115, p. 168.

Botkin finds by experiments upon frogs that the drug destroys the excitability of the nerves, but leaves that of the muscles unaffected. The peripheral extremities of the nerves are first affected, those of the motor-nerves before those of the sensory. The poison acts through the medium of the blood, as a limb whose vessels are tied remains unaffected. The action of the poison on mammalia is essentially the same as in frogs. When complete, the nerves no longer react on any irritation. When the poisoning is incomplete, and the animal still breathes, the nerves still react with the strongest interrupted currents without, however, producing tetanus of the corresponding muscles. On immediate irritation the muscles, however, react very readily, even with a very slight stimulus. Recovery in dogs and rabbits ensued speedily. The heart's movements in frogs became slower, the cavities distended with blood, the arteries partially emptied, and the veins over filled. In mammalia the heart's action is rendered weaker and more frequent, and the average lateral pressure in the arteries diminished. In both, therefore, the effective power of the heart is lowered. Repeated subjection of a limb in frogs to interrupted currents renders that limb more sensitive to the action of the poison than the other which is in its natural state.

Beau.—J. de Med. et de Chir. Pratiq., vol. xxxiii. p. 350.

Mentions the good effects of valerian baths in hysteria and various nervous disorders. An infusion made with about 1lb. of the root to Ov. of water is added to the bath, and the remains of the root also enclosed in a bag.

Vollant.—J. de Med. et de Chir. Pratiq. vol. xxxiii. p. 361.

Affirms that hooping-cough in its spasmodic period is positively arrested and cured in three or four days by powdered belladonna root. The dose is one-fifth of a grain, given at first once, then twice, then four times a-day, and so on until the paroxysms begin to subside, when it is given at much longer intervals. The powder of the leaves has little efficacy.

Wunderlich.—*On a Case of Spontaneous Tetanus.* Archiv. d. Heilkünde, 1861, No. 6. Med. T. and Gaz.

The case terminated fatally in four days. No signs of inflammation, properly so-called, were found on examination, but at various points of the cord the microscope detected the highest degree of the new formation of connective substance described by Rokitansky. The evening before his death the temperature suddenly rose, and shortly before that event attained the height of 34°7 R. (108° F.); at death it was 35°8 R. (112°55 F.), the highest ever observed. After all signs of life had ceased it continued to rise for nearly an hour, and attained 36°25 R. (113°56 F.). The pulse also rose to 180 shortly before death.

Gaspero.—Gaz. Med. Prov. Venet. London Med. Rev., April.

Narrates some cases of severe convulsions which were successfully treated by very large doses of aconite. In one case 730 grains of the extract were taken on the first, and on the second day half as much again, after which the convulsions disappeared, and a complete recovery took place.

Haughton, S., Rev.—*On the Use of Nicotine in Tetanus, and in Cases of Poisoning by Strychnia.* Dublin Q. J. of Med. Sc., Aug. 1862.

Haughton relates five cases (one in a horse) where nicotine was given or infusion of tobacco. In all the cases it appeared to be beneficial, three recovered. The dose of nicotine was ♏ ½-ij, three to six times a-day. The effects were, lowering of the pulse, in one case from 130 to 88, in another it caused an increase of ten beats; immediate relaxation of the spasm of the muscles of expression, respiration, deglutition, those of the back and of the abdomen; cessation of delirium and feeling of relief from agonizing pain; profuse sweating with an intolerable odour of snuff; a tendency to sleep. The hamstring and the adductor muscles were more refractory to its influence than the others.

Gherini.—Gazz. Lomb. 5, 1862.

Records a case of traumatic tetanus which was treated successfully by the subcutaneous injection of curare. The treatment commenced on the fifth day of the disease, and the patient was convalescent on the seventeenth. In all forty-seven grains of curare were injected dissolved in sixteen drachms of water. The number of injections made amounted to sixty single and thirty-two double and treble. The effect of the remedy was to cause relaxation of the muscles, especially when injected into their tissue, also copious diuresis and diaphoresis, light and refreshing sleep, keen hunger and thirst.

Levick, J. J., M.D.—*Remarks on Chorea, with Notices of some Allied Disorders.* Amer. J. of Med. Sc., Jan. 1862.

Levick states generally of all the causes of chorea, that they may be regarded as irritations affecting a highly sensitive nervous organization. *Fright* acts either by directly disturbing the nervous force, or by disordering the various emunctories and inducing toxæmia. Admitting the influence of rheumatism in producing chorea, Levick, however, disbelieves in the constant or even frequent association of mitral disease. Other causes, which he admits are intestinal accumulations, dental irritation, toxæmia from arrest of cutaneous eruptions, or perspiration, states of exhaustion, uterine irritation, particularly pregnancy, of which he records three cases, one fatal. Among varieties of chorea he notices and gives two examples of salaam (bowing) convulsions. Treatment must be guided by the state of the system in each particular case. Tonics, anti-spasmodics, purgatives, generous diet, sedatives, especially opiate enemata, are to be used according to the indications.

Fraser.—*Cases of Chorea Treated by Sulphate of Aniline.* Med. T. and Gaz., March 8th.

Five cases took the drug for periods varying from nine up to thirty-four days, the doses ranging from a grain to twenty-eight grains daily. None of them were at all benefited. Arsenic being given instead, rapid improvement took place.

Danet and Widal.—J. de Med. et de Chir. Pratiq., Dec., 1862.

Record cases of very severe and prolonged hiccup, one of which was cured by zinci valerian. with extr. bellad., another by quinine, after opium, belladonna, and chloroform, had failed, and a third by Vichy water and gentian. In the last case the stomach appears to have been chronically inflamed.

Cunningham, R. W.—*Notes of a Case of Hydrophobia.* Brit. Med. J., Feb. 8th.

The results of post-mortem examination were, that the dura mater and the cerebral veins were congested with dark-coloured liquid blood. A large quantity of serum, containing fibrinous flakes, flowed out from the cavity of the arachnoid, and the two layers were united in many places by soft and recent adhesions. There was much subarachnoid effusion, but the substance of the brain appeared perfectly healthy, with the exception of a reddish tawny spot in the substance of the pons Varolii, having somewhat the appearance of inflammatory softening. The ventricles contained fluid similar to that in the arachnoid cavity. At the origins of the seventh, eighth, and ninth pairs of nerves, the membranes were highly vascular, thickened, softened, and matted together, but the nerves and the medulla seemed to be perfectly normal. There was nothing unusual in the symptoms except it be that the patient (æt. 37, a male) during the paroxysms uttered sounds exactly similar to the bark of a dog.

Clark.—Amer. Med. T., June 7th.

Gives a short account of a fatal case of hydrophobia. The wound had been inflicted three weeks before the appearance of the symptoms, and had healed rapidly and perfectly. Morphia was given internally with enemata of assafœtida.

Porter, H., M.D.—Brit. Med. J., July 19th.

Records a case which he regards as one of hydrophobia, the patient dying in asthenia after having shown some very suspicious symptoms. He had been bitten four days previously by a dog, which, however, has shown no sign of rabies.

Albers.—*On Parenchymatous Infarction of the Brain.* Virchow's Archiv., vol. xxiii, p. 7. Lond. Med. Gaz., Feb.

The brain is larger, firmer, harder, and more elastic than usual; the ventricles are small and without fluid. The nervous structure is not much altered, but it is infiltrated by more or less granulous and semi-transparent matter. The capillaries are of very unequal size, some being much dilated. The specific gravity of the tissue is notably increased. These changes are observed for the most part in cases of typhus, chronic epilepsy, chronic insanity, and acute delirium. They are, in all probability, not causes, but effects of the disease.

Charcot and Vulpian.—*Case of Intra-Meningeal Apoplexy, with False Membranes on the Dura Mater.* Gaz. hebd. vii, 45, 49, 51, 1860. Schmidt's Jahrb., vol. 114, p. 23.

After relating an instance, the authors proceed to discuss the subject, and give their adhesion to Virchow's opinions as to the prior existence of meningitis of the dura mater, and formation of vascularized false membranes, from which the hæmorrhage proceeds. They agree with Schuberg as to the existence of prodromata, which may extend over several months, and consist in general weakening of the memory and of the intelligence, giddiness, and continuous or intermittent, general or local pain in the head, followed at a later period by aggravation of these phenomena, transitory loss of consciousness from momentarily arrested cerebral circulation, somnolence and apathy, weakness, and generally one-sided paralysis of the extremities, which soon disappear. Finally, the apoplectic phenomena occur, which, of course, vary according to the magnitude of the extravasation. They believe that the newly-formed membranes may undergo retrograde change, and even quite disappear, and think that to effect this should be the object of treatment in cases of suspected pachymeningitis.

INMAN, T.—*On Acute Hydrocephalus.* Lond. Med. Rev., May, 1862.

Inman connects the pathology of the disease essentially with cerebral debility or exhaustion, or mal-nutrition. He asserts that symptoms of the approach of the disease may be observed for some weeks or months before it sets in, consisting in sudden drowsiness, feverishness, vomiting, or malaise. Treatment must include the avoidance of everything that can depress the nervous power, and the adoption of means to improve the condition of the brain. Friction with opiate liniments is very soothing.

SCHRAMM.—*Diseases of the Brain.* Bayer, ärztl. Intell. Bl. 38, 39, 40, 1861. Schmidt's Jahrb., vol. 114, p. 300.

Schramm practises in a very malarious district, and finds disease, in consequence, to have a special character. He classes his cases as irritative, torpid, and convulsive. Of the first there were 114; they were most frequent in May, and between the ages of twenty and fifty. Of these, fifty were attended with fever, and sixty-four not. In the febrile cases cerebral pain was the most prominent symptom; it was sometimes so violent that the patients became maniacal. Even in the intermissions they felt stupified and lost, and suffered with dull head pain. Severe neuralgic pains were felt in the face, back, and other parts. Delirium occurred frequently, but usually was transitory and slight. Sometimes, mostly in persons above forty, the gait was tottering and unsteady, as if from drink. Disorder of the alimentary canal was rare. In young and strong persons the phenomena were more like those of the early period of meningitis, the skin being hot, the pulse full and quick, the face flushed, with restlessness and excitement. In older and more weakly subjects the symptoms approached more to those of the later stage of meningitis; coma and paralysis appeared imminent; the face was collapsed, and the skin cool. If quinine was given, early recovery took place, but, if not, coma became more marked, and life was in great peril. In the sixty-four non-febrile cases, the pain in the head was generally less severe; giddiness occurred in twenty-six, chiefly in patients above forty. Of the torpid class there were twenty-two cases, of which six occurred between the ages of fifty and sixty. In this class Schramm ranks soporose affections, which are extraordinarily frequent in that district, and, unless they are grave, and affect persons advanced in life, are not of serious import. The convulsive affections were mostly observed in children under the age of five, in fifteen out of twenty-two cases. In nine or ten of these malaria was the cause; in none did teething appear to have any influence. Epileptic paroxysms occurred in four cases, and in three quinine proved curative. Besides this remedy, which is almost always required, antiphlogistic treatment is frequently necessary when the signs of congestion indicate that there is danger of effusion or hæmorrhage. Cold applications to the head, and opium, are often of much benefit.

SCHOOL

MEYER, L.—*On Constitutional Syphilis of the Brain.* Allg. Ztschr. f. Psych. xviii, 1861. Schmidt's Jahrb., vol. 114, p. 312.

Meyer relates eight cases of intra-cranial disease, in which there were found either fibrinous (gummatous) tumours in the brain, or the results of internal periostitis or inflammation of the membranes, besides more or less marked indications of syphilis in the liver, inguinal glands, or other parts. The symptoms of course were very various, and admit of no general description.

SCHOTT, E.—*On Abscesses of the Brain.* Wurzb. Med. Ztschr., ii, 1861. Schmidt's Jahrb., vol. 115, p. 29.

Schott examines forty recorded cases. He finds otitis, pyæmia, and injuries to be the most frequent causes. The males were thirty-one, the females nine. In cases of otitis, the abscess formed mostly in an imperceptible manner; in cases of injury there were transitory symptoms. The first sign, after the latent period, was pain in the head; encephalitis was only present in acute cases. Consciousness was not lost till near the end, but a change of disposition was early perceptible. Paralysis was but seldom an early symptom; it occurred in various parts at a later date, in eighteen of the whole number. Convulsions occurred in twenty-one, were usually partial, and preceded the paralysis. Pain in the head was constant, and usually on the same side as the abscess, but did not indicate its seat. There was nothing characteristic in the state of the pupils. Vomiting occurred only eight times, and then at the commencement. The pulse was sometimes very slow.

MESNET.—*On Circular Movements as Indications of Brain Disease.* Arch. Gen. de Med. Lond. Med. Rev., June.

Mesnet states that this phenomenon is connected with the existence of chronic tumours of the brain, and that it may consequently serve to elucidate the diagnosis of these affections, which is often obscure. The movement occurs most frequently on the same side as the lesion, the seat of which seems most frequently to be the superior parts of the brain, the anterior lobes, the lateral ventricles, or the posterior lobes. It is very similar to the staggers in sheep, except that it has never been known to be occasioned in man by cœnuri.

DEBOUT.—*On Cubebs in Vertigo and Amnesia.* Ann. de Thérap., 1862, p. 52.

Debout recommends from eight to thirty grains of freshly-powdered cubebs to be taken at the beginning of the principal meals, where the digestion is weak. When vertigo exists the remedy must be taken morning and evening, and at least two and a-half drachms in the day.

LICHTENSTEIN, E.—*On Laloplegia, or Glossoplegia.* Deutsche Klinik, March 1st, 1862.

Lichtenstein records three cases in which this symptom was the most prominent, two of them recovering before long completely, and one dying. He believes that it may occur as a *temporary* affection from mental emotions, or as a *permanent*, from some exudation at the site of the nervous centre which presides over speech. This he locates at the upper part of the medulla oblongata. near the origin of the vagi, which are often involved to some extent at some period of the affection.

EIGENBRODT.—*On the Diagnosis of Partial Paralysis of Sensibility, especially of the Sense of Touch, or that of Pressure (Apselaphesis).* Virchow's Archiv., vol. xxiii, p. 571.

Eigenbrodt maintains that it is no uncommon thing to find the sense of touch more or less completely lost, while that of temperature or of pain remains unimpaired. Or one of the latter may be defective. Eigenbrodt's observations were made on patients affected with chronic disease of the spinal cord. In one tactile sensibility was only perfect on the head. For testing the sense of temperature, he used glasses filled with water, in which the part was dipped. For testing the tactile sense he employed compasses and different weights; one patient was unable to distinguish whether two pounds were laid on the little finger or nothing at all: another had no perception of five pounds, while yet his muscular sense was so intact that he easily distinguished between a weight of thirty-two and one of thirty pounds, both poising them in the air. This case therefore shows that the muscular sense, that of pain and that of temperature, may still exist although the sense of touch is quite lost. Eigenbrodt believes that observations of this kind will materially aid in the diagnosis of spinal and cerebral diseases.

ADAMS, LEITH A., M.B. Lancet, July 12th.

Records a case of encysted abscess in both hemispheres of the brain. The symptoms commenced three and a-half months before death, and consisted of nausea and oppression of the chest, pains in the epigastrium, dulness, and taciturnity, followed by unconscious evacuations at night, and pain in the head.

EHRMANN.—*On the Effects produced in the Encephalon by the Obliteration of its Arteries.* (Pamphlet.) J. of Mental Sc., July 1862.

Hemiplegia of the side opposite to that on which the ligature is placed, with or without convulsions, is the most common result of tying the carotid artery. The hemiplegia and convulsions appear sooner or later after the operation, and after continuing for a time may entirely disappear. Where death has followed the operation, softening of the brain in the portion more immediately supplied by the artery, and either of the inflammatory or the anæmic (white) kind has been usually found. At times the operation has been attended by temporary or even by permanent blindness, and more rarely by loss of power of speech. This last result may depend on the recurrent laryngeal nerve having been included within the ligature. Of forty-nine cases of ligature of one carotid, cerebral disturbance is noted in thirty, and death in eighteen. Among a larger number of cases the accidental and untoward consequences of the operation were equal to twenty-one per cent.

Trousseau.—J. de Chir. et de Med. Pratiq., vol. xxxiii, p. 153.

Mentions the case of a man dying with eclampsia, after having worked in lead for seven weeks. After death a notable amount of lead was found in the brain, the cord and the liver. He had been a great absinth drinker.

Gull, W.—Guy's Hosp. Reports, vol. viii.

Records a case of progressive atrophy of the muscles of the hands, commencing as inability to extend the little and ring fingers of the right hand, with a sense of coldness and numbness of the part. After eleven months the right middle finger began to fail in a similar way, and five weeks later the three inner fingers of the left hand became weak and flexed in the same way, but without any numbness. The hands gradually wasted. Improvement took place under faradization, but he was soon attacked with typhus fever and died. On post-mortem examination a large cavity was found in the centre of the cord beginning at the fifth cervical, wider at the seventh, and tapering from thence downwards to the fourth dorsal. The cavity of the cord was occupied by fluid and lined by an imperfect epthelium. The only remains of the grey matter were at the anterior part of the cavity behind the anterior columns; here the caudate vesicles had their normal size and structure. The white columns and the nerve roots were normal.

Moxon, W., M.D.—Guy's Hospit. Reports, vol. viii.

Describes the case of a female in whom all the nerves were uniformly enlarged, so as to be nearly three times their proper size, and this enlargement was found to depend not on any increase of the interstitial neurilemma, but on an unusual magnitude of the individual nerve tubules whose average diameter was $\frac{1}{900}$th to $\frac{1}{950}$th inch.

Triquet.—J. de Med. et de Chir. Pratiq., Dec. 1862.

Records the case of a phthisical female, dying at the age of 28, who had had for some years chronic otorrhœa of the right side, and during the last weeks of her life facial paralysis of the same side. The tympanic cavity was found full of pus, the walls inflamed, the bony tissue surrounding the Fallopian canal condensed, and the nerve flattened.

Eulenberg.—*On Hypertrophy of the Heart, and Disease of the Cerebral Arteries in relation to Apoplexy.* Virchow's Archiv., vol. xxiv, p. 329. Med. T. and Gaz., Oct. 25th.

Eulenberg, from his own experience, and a comprehensive review of that of others, concludes (1) that in by far by the greater majority of cases cerebral hæmorrhage is due to degenerations of the cerebral arteries as its predisposing cause. In the smaller arteries these consist of fatty metamorphosis or simple atrophy, with the various forms of consecutive dilatation; while in the larger arteries of the base there is arteritis issuing in ossification or fatty degeneration, or passive calcification. (2) A not entirely rare cause of the rupture are true aneurisms of the large cerebral arteries. (3) Hypertrophy of the left ventricle will only favour cerebral hæmorrhage, when it permanently increases the normal tension of the aortal system. This is not the case in compensating hypertrophy of valvular disease of the heart. (4) In about one-seventh of all cases of apoplexy, neither predisposing diseases of the heart nor of the vessels could be demonstrated.

ROGERS.—*On Diphtheritic Paralysis.* Med. T. and Gaz., Jan. 4th.

During the year 1860, there occurred 210 cases of diphtheria at the Hôpital des Enfans, and paralytic symptoms followed in thirty-one cases. The proportion would have been one-fourth or one-third higher, but for the early removal of some cases, and the death of others. During the same period among sixty-one cases of angina simplex, twelve of typhoid fever, thirty-three of rubeola, twelve of scarlatina, four of variola, and twenty-four of pneumonia, not one instance of secondary paralysis occurred. In forty cases the ages most frequently affected were from four to six. The paralysis usually appeared from the fourth to the eighth day. Recovery mostly ensues, though in some cases death has taken place from paralysis of the respiratory muscles or sudden suffocation. In the way of treatment Rogers recommends tonics, iron, sulphurous preparations, and the application of electricity.

STOFFELLA.—*Case of Paralysis Agitans with Autopsy.* Wien, Wochenbl. xvii, 37, 1861. Schmidt's Jahrb., vol. 113, p. 39.

A man, æt. 72, became affected suddenly with weakness, followed by paralysis agitans, in consequence of a severe fright. This continued for five years in spite of treatment. Death was the result of dysentery. At the autopsy there were found traces of old tuberculosis of the lungs, atrophy of the brain, with secondary dropsy of the ventricles and cerebral membranes; in the right thalam. opt. an apopleptic cyst, as big as a pea; the pons Varolii and med. oblong. remarkably stiff, the arteries at the base rigid, and ossified in spots, and the lateral columns of the cord, especially in the lumbar region, traversed by greyish opaque streaks, which, as well as the indurations in the pons and medulla, resulted from embryonal connective tissue.

TAYLOR, C.—*Report of an Obstinate Case of Chronic Myelitis, with accompanying Paralysis of the lower half of the Body, successfully treated.* Brit. Med. J., May 24th.

The disease had lasted eleven months before treatment was commenced which consisted in the administration of ergot and belladonna, pot. iodid. and ol. morrh., with alternated cold and hot flapping of the back, twice daily, and a cold douche, followed by violent rubbing with mustard every morning. Recovery was complete, with the exception of some slight want of power in guiding the legs. The symptoms were exceedingly well marked, and the treatment was based upon a correct diagnosis. Another case of paraplegia, equally severe, is subjoined, where the affection was of a totally different nature, and recovery ensued rapidly from the use of localised electricity to the paralysed muscles.

LEUDET.—*On essential Paralyses following Typhus.* Gaz. de Paris, 19, 1861. Schmidt's Jahrb., vol. 114, p. 27.

Leudet adopts Gubler's view as to the division of the cases into those occurring during the course of the disease, and those taking place during convalescence. The latter he believes to depend on an alteration in the crasis of the blood, which often occurs after mild cases as well as after severe. Leudet believes that there are no morbid alterations in the brain or cord, at least in his cases he could find no trace of them. Treatment must be tonic. Two fatal cases with autopsies are recorded.

MESNET.—*Case of Cerebral Tumour with Lateral Deviation in Walking.* Gaz. des Hôpit. 37, 1862. Schmidt's Jahrb., vol. 115. p. 173.

A male, æt. 42, suffered with severe head pain, exacerbated at intervals, and concentrating itself then in the right half of the forehead. There was some paresis of the whole left side. The psychical actions were dull, the temper melancholy. In walking, the patient had an irresistible impulse to deviate to the right. Several epileptic attacks occurred, followed by coma and death. The brain and its membranes were normal, but in the right anterior and middle lobes there was a tumour of the size of a billiard ball, hard, creaking under the knife, and glistening.

COLIN.—L'Union, 37, 1862. Schmidt's Jahrb., vol. 115, p. 173.

Records a case of spinal hemiplegia, with considerable increase of temperature on the paralysed side. Death occurred suddenly, and there was found in the right anterior column of the cord a spot of softening of the size of a filbert, containing a small, soft, apparently recent, blood-clot. The left hand was from 13° to 21° F. warmer than the right. The right arm was completely, the right leg partially, paralysed.

DECHAMBRE, NICOLAS.—*On the Sleep-disease.* Gaz. hebdom. viii., 1861. Schmidt's Jahrb., vol. 115, p. 174.

The disease seems to be peculiar to negroes, and is met with chiefly in Congo on the African coast. The prominent symptom is a great tendency to sleep, which becomes more continuous, and ends at last in death. The intelligence is enfeebled and slow, but persists till the close. In prolonged cases there is emaciation and diarrhœa. There is no fever and no paralysis of motion or sensation. Treatment has proved quite fruitless, the disease always terminating fatally. Autopsies have shown no definite morbid alteration.

LOBB.—*On Galvanism as a Therapeutic Agent.* Dublin Q. J. of Med. Sc. Aug. 1862.

Lobb treats cases of rheumatic paralysis by exciting the skin, first with a sharp current, using a dry, flat, metallic conductor, and an 120-element galvanic battery with a wet sponge at the positive pole. The dry conductor is afterwards exchanged for a moist one, and each muscle stimulated to contraction. The current, he says, restores the circulation in the part, causing warmth and redness where there had previously been pallor and cold; the muscles also, which were stiff and hard after contraction, become soft and elastic to the touch. The proceeding in paralysis attended with atrophy is to have a continuous current from a chain passed steadily through the part for a long time, which increases the circulation in the part and stimulates nutrition. At intervals an interrupted current is passed to excite the returning contractility. In neuralgia depending on primary uterine affections, and in palsy with tonic contraction of muscles, the inverse continuous current is highly beneficial.

BOURDON, H.—*Case of Ataxie Locomotrice Progressive.* Arch. Génér. 5 Ser. xviii., Nov. 1861. Schmidt's Jahrb., vol. 114, p. 30.

The first symptom was loss of co-ordination of the movements of the legs; four and a-half years later paresis of the left oculo-motor nerves; lastly, paralysis of the bladder, and loss of virility. The sensibility of the skin and muscles was unimpaired throughout. The brain and cerebellum were healthy, the membranes of the spinal cord much congested and thickened, the cord itself atrophied, but softer than natural at its posterior surface. The posterior columns, and in a less degree the posterior roots, showed fatty degeneration and destruction of the nerve fibres, which extended even to the posterior horns, though here many cells were unaffected. The anterior columns were tinged yellow, but less than the posterior. The spinal ganglia were congested and enlarged. These changes were most marked in the lumbar portion of the cord, and the cauda equina. Bourdon is inclined to think that congestion of the ganglia was the starting-point of the affection, the morbid change being subsequently propagated to the posterior roots and the posterior columns.

DUMENIL, A.—*Case of Ataxie Locomotrice Progressive.* L'Union, 17, 1862. Schmidt's Jahrb., vol. 114, p. 307.

The symptoms commenced nine years before death with unsteadiness of the legs; after eight years vision began to fail; there were latterly cutaneous anæsthesia, great atrophy of the lower, and less, of the upper extremities, and paralysis of the sphincters. The posterior roots were found remarkably atrophied from the lower cervical downwards, the cord itself was flattened antero-posteriorly, the posterior columns of a dirty white, especially in the dorsal region. The white matter of the posterior horns was not distinct from the grey, and was of horny consistence. The paralysed muscles were fattily degenerated, the optic nerves atrophied, the lungs tuberculous.

BOURDON, H.—*New Clinical and Anatomical Researches upon the Disease termed "Ataxie Locomotrice Progressive."* Arch. Génér. de. Med., April, 1862. Brit. and For. Med.-Ch. Rev., July, 1862.

Bourdon comes to the following conclusions:—(1) That, independently of disturbances connected with muscular and cutaneous anæsthesia, a morbid phenomenon exists, essentially characterised by want of co-ordination of complex movements; (2) this symptom, which is the "ataxie locomotrice," may, like the paralysis of movement, or of sensibility, or every other functional disturbance of the same order, appear in a number of nervous diseases, asthenic, diathetic, &c., or in intoxications, and may exist without material appreciable alteration in the cerebro-spinal organs; (3) the same disorders, connected with the muscles, may be originated by various anatomical lesions occupying the posterior columns, the roots, and the posterior horns of the spinal marrow; (4) a certain number of post-mortem examinations give rise to the impression that a morbid entity exists, having a slow and progressive progress, a termination almost certainly fatal, and connected with a particular degeneracy of the spinal cord, occupying the seat above indicated, and capable of extending to the isthmus of the brain, and reaching the motor nerves of the eye, the optic, and other cranial nerves.

Jaccoud.—*Critique of the Views held respecting "Ataxie Locomotrice."* Gaz. hebdomad. ix, 8, 1862. Schmidt's Jahrb., vol. 115, p. 297.

Jaccoud maintains that the disease is not essentially different from muscular anæsthesia, that it is not a special disease, but only a variable aggregate of symptoms corresponding to different anatomical alterations, that the apparently constant atrophy and fatty degeneration of the posterior spinal columns is not primary but secondary, and arises as the consequence of the loss of sensation in the muscles, which is produced at the periphery; lastly, that the "ataxia" in its commencement is purely functional and curable. The circumstance that in muscular anæsthesia the eye is able to regulate the movements, while it is unable in "ataxia," only proves that the latter is a higher grade of the same affection, and that the correcting power of vision is gradually lost.

Charcot and Vulpian.—*Atrophy of the Posterior Columns and Roots of the Spinal Cord.* Gaz. hebdom. ix, 16, 18, 1862. Schmidt's Jahrb., vol. 116, p. 43.

A female, æt. 42, had first disorder of vision, passing on to complete amaurosis. Eleven years after the lower limbs began to lose the power of co-ordinating movements, especially those of walking, while the muscular contractility remained unimpaired. The sense of touch was enfeebled, but not that of pain, nor the muscular sense, nor that of temperature. There was wasting of the legs, but not of the arms. Death ensued from phthisis pulmonalis. At the autopsy the posterior columns from the dorsal region up to the cervical were found of a grey colour and stiff consistence, and traversed by scattered white lines. The grey parts consisted of cellular tissue without nerve elements, the white parts appeared to be new-formed nerve fibres. The posterior roots were very thin, and showed the same grey colour, especially marked in the dorsal region and diminishing below; the posterior cervical roots, as well as all the anterior, were normal in size and colour. But few amyloid bodies were found in the diseased cord, but many small vessels were surrounded with fat molecules. The brain, pons Varolii, and medulla oblongata were normal; the N. optici up to their origins were atrophied, and showed no nerve structure. The authors regard the alteration of the posterior columns as a primary change, and consider that the disorder of motor power may depend on the loss of the muscular sense. How the sensations of pain and of temperature were appreciated does not appear.

Charcot and Vulpian.—*On the Use of Nitrate of Silver in the Treatment of "Ataxie Locomotrice Progressive."* Bullet. Génér. de Thérap. Med. Dublin Q. J. of Med. Sc., Nov. 1862.

Wunderlich (Arch. d. Heilk., 1861) has recorded five cases of this disease which obtained more or less considerable amelioration from the administration of argenti nitras. The amendment was speedy, the largest amount of the drug taken in any single instance was forty-eight grains. The cases treated by Wunderlich were comparatively recent, those of M.M. Charcot and Vulpian were chronic, and had been sent to the Salpetriére as incurable. They were five in number, all of whom were materially benefited—pains ceased, motor and sensory power was restored, and in one instance visual. The general health was much improved, the appetite increased, constipation yielded, and they gained flesh. The dose of the drug was one-sixth of a grain *bis vel ter die*; amelioration commenced in from four to ten days. The same treatment proved very beneficial in a case of complete paraplegia. Cloez has demonstrated the presence of silver in the urine of patients who were taking the nitrate.

CLEMENS, TH.—*The Diseases of the Spinal Cord in their relation to Electric Currents and Curative Agents.* Deutsch. Klinik., 1862. No. 15, 28, April 12th.

Clemens states that in the most various diseases of the spinal cord it is not unfrequent to observe that the irritability of the muscles is greatly depressed, while their sensibility is morbidly increased. Electric currents then excite violent pains, and only barely perceptible contractions, and these pains are felt not at all in the skin, but evidently in the muscle through which the current is transmitted. Even the influence of the will, which may be powerless to cause contraction, will in such cases produce sharp pain. He relates an experiment showing that the irritability of a frog's heart persists longer in a positively electrified atmosphere (within a Leyden jar) than in the open air. Clemens insists on the great advantage of passing currents through the genital organs as a means of improving the innervation of the spinal cord. This is very apparent in patients who have brought themselves into a state of great debility by onanism, the toning and invigorating of the genital nerves exercising a very favourable reflex action on the whole nervous system. Urethral hyperæsthesia is speedily cured by this method.

BERGSON, JOS.—*On Brachial Neuralgias.* Prize Essay, Milan, 1860. Schmidt's Jahrb., vol. 113, p. 296.

Bergson treats first of neuralgias from mechanical causes, contusions, and injuries. He describes the latter as characterised by extremely violent pain, starting from the seat of the injury, centrifugal or centripetal, often periodic, and accompanied with great tenderness, which appears a longer or shorter time after the injury. There is also swelling and redness, which differ from those of aponeurotic inflammations or deep abscesses by the more vivid redness of the former, the greater pallor of the skin, the more marked œdema, and generally the sudden and repeated increase and decrease of the symptoms. Further, the pain shifts from the injured to some adjacent nerve; there are often reflex contractions in the injured limb, and general nervous symptoms appear, as prostration, faintings, and globus hystericus. Bergson regards these phenomena as depending partly on a general disposition of the organism (the nervous temperament), and partly on a morbid (inflamed) condition of the nerve, which influences the whole nervous system. The treatment at first must be antiphlogistic, including general and local bleeding, baths, poultices, emollients, and sedatives. When the disorder becomes chronic, revulsive measures, moxas, cauteries are to be used. It often occurs that this neuralgia loses its local character, and becomes quite similar to the chronic idiopathic form, requiring then antispasmodics, alterants, and sedatives. Excision of a portion of the affected nerve is sometimes advantageous. As special forms of traumatic neuralgia Bergson describes, and quotes cases of (*a*) phlebotomic; (*b*) traumatic of the thumb, and other fingers; (*c*) of the hand and its articulations; and (*d*) neuralgia of the stump after amputation. The author next describes neuromatous neuralgias of the various brachial nerves, and what he terms commotor neuralgia of children with paralysis (the arm being injured by the child being pulled along by it). The next group are the Rheumatic Neuralgias, which are described as affecting the several nerves, and also the hand and forearm. The latter form he describes as commencing with formication and lessening of the cutaneous sensibility, which may increase to complete anæsthesia. The severest pain comes on in the night, and ends with the dawn of day, though the fingers still feel numbed and painful. There is no increase of temperature, though the patients often complain of intolerable heat in the affected part. Gamberini observed this form mostly in laundresses who had not been long engaged in the work, and states that it was usually cured by belladonna ointment. Others have found large doses of quinine requisite. He next remarks on the well-known sympathetic neuralgias, whose pains are not so violent, more dull, without tender points, and occur more by day than night. Deuteropathic Neuralgias are the common hysterical or chlorotic, the saturnine, and those resulting from spinal irritation. The saturnine affected the arms eighty-eight times in 2171 cases noticed by Tanquerel. No definite relation exists between the intensity of colic and of the neuralgia. The symptom first observed in these cases is torpor and weariness of the limb, which increases day after day. After some time the pain sets in mostly in the night, it is diminished by pressure, increased by movements, exists chiefly on the side of flexion, and does not follow the course of a nerve definitely. The paroxysms are very violent, last some minutes, occur mostly at night, and are reproduced by movement or by a cold draught of air. The pains do not cease wholly during the intervals, and the limbs have still the sensation of weariness and torpor. Treatment by sulphuret of potassium, baths and purgatives, is successful in from three to six days. The last group are the acute and chronic idiopathic neuralgias, whose characteristic is to be without any discoverable pathological cause. The chronic is often very obstinate. The diagnosis of neuritis from neuralgia is made to turn chiefly on the former being the result of injury or the painful nerve being found to be enlarged.

REMAK, R.—*On Neuritis.* Œsterrh. Ztschr. f. Prakt. Heilk. vii, 48, 1861. Schmidt's Jahrb., vol. 114, p. 28.

Remak describes various paralyses and atrophies, neuralgias and contractions, which are all curable by the constant current. Besides brachial and sciatic neuritis, there exists also a lumbo-sacral, which causes a considerable paraplegia, associated with paralysis of the bladder and secondary nephritis, and often with great atrophy.

NOYES, H. D.—Amer. Med. T., March 15.

Records a case of amaurosis from injury to the supra-orbital nerve. The skin of the forehead and scalp to which the nerve is distributed remained partially insensible for three years. The blindness was permanent. No lesion of the interior of the eye could be detected by the ophthalmoscope.

HITCHCOCK, A., M.D.—*Some Remarks on Neuroma, with a Brief Account of Three Cases of Anomalous Cutaneous Tumours in One Family.* Amer. Q. J. of the Med. Sc., April 1862.

In two of the cases the tumours were numerous, in one too numerous to be counted, in the third there was one principal tumour, which returned after removal, reappeared after amputation, and proved fatal. It presented at first a doubtfully encephaloid character, but subsequently this was more decidedly marked.

A writer in the Australian Medical Record relates two cases of obscure neuralgic pains produced by lead in the system, and announces the following simple method of detecting the presence of this metal. After administering to the patient pot. iod. for a short time, he is desired to place a piece of sulphuret of potassium, tied up in a rag, in the urine every time he passes it, for five minutes, during two days. The iodide of lead in the urine is decomposed, and sulphuret of lead formed, which remains in the rag. Dublin Hosp. Gaz., March 1st.

LEE, C. C.—*On the Antagonistic Effects of Opium and the Mydriatics, illustrated by Cases of Poisoning in the Human Subject.* Amer. J. of Med. Sc., Jan. 1862.

Lee gives three well-marked cases of poisoning by stramonium, in which the symptoms were evidently overcome by full doses of opium, all the patients recovering. He adds two other cases, one of poisoning by belladonna, the other by opium. For the first opium was used, for the second belladonna. The results were that the poisonous symptoms were promptly subdued, and that doses of the antidote were safely given which would have been surely fatal in health.

BARTELS.—*On the Therapeutic Application of Acet. Zinci.* Pr. Ver. Ztg. N. F., iv, 1862. Schmidt's Jahrb., vol. 114, p. 19.

Bartels recommends this salt in all cases of cerebral irritation devoid of actual inflammation. It may often replace morphia.

BURGESS.—*On Amaurosis with Tænia.* Amer. Med. T., April 19th. Brit. Med. J., June 14th.

A male, æt. 39, six months before began to suffer severe pain through the right eye and over the right side of the face and head. The right side of the face became paralysed, and the vision of the right eye became cloudy and at last was lost. The left eye became similarly affected. When seen the eyes were prominent, the pupils dilated, and but little sensible to light, the interior of the eye of a glaucomatous tint, the right side of the face was still paralysed, and the tongue partially. After the expulsion of a tapeworm the paralysis and the blindness gradually disappeared.

Liégeois, Hottot.—*On the Action of Aconitine on the Animal Organism.* J. de Physiol., Oct. 1861. Schmidt's Jahrb., vol. 114, p. 291.

The author's conclusions are the following :—(1) Morson's crystallized product is not the active principle of aconite. (2) Aconitin is an acro-narcotic poison whose irritant action is chiefly manifested on the mucous membranes. (3) Aconitin is absorbed more rapidly from the alimentary canal than curare or strychnia, and this accounts for the comparative rapidity with which death is produced by small doses taken into the stomach. (4) Aconitin acts on the nervous centres, the medulla oblongata, the spinal cord, and the brain, in the order they are mentioned. (5) The poisoning symptoms are, first, abolition of the respiration, then of general sensibility, then of reflex excitability, and lastly of voluntary motion. (6) Aconitin disturbs the functions of the heart by a direct action on its tissue. (7) and (8) The peripheral terminations of the nerves are affected subsequently to the central organs, but they lose their excitability (both motor and sensory) before the nervous trunks. The aconitine of the authors is a permanent substance, non-volatile, almost insoluble in water, but soluble in alcohol, æther, benzoin, and chloroform. Locally it acts as an irritant to mucous surfaces, but not to the skin. Its administration produces in rabbits and guinea-pigs marked salivation, and increase also of the lacrymal, pharyngeal, gastric, and intestinal secretions. The arrest of respiration the authors believe to be produced by the action of the poison on the medulla oblongata, it takes place coincidently with the loss of sensibility. The first action of the poison is to accelerate the action of the heart, it afterwards becomes slow and irregular, and then ceases. [According to my own observations it is truly paralysed, the tissue being non-contractile and flaccid immediately after death, and the cavities dilated.—*Ed.*] The author's experiments go to prove that the brain, as the seat of conscious sensation, is paralysed by aconite, while the instruments of the reflex function, as tested by strychnia, remain active.

Berchon, Ernest.—*On the Methodical Employment of Anæsthetics, especially of Chloroform by Means of a Regulating Apparatus.* Ann. de Thérap., 1862, p. 28.

The author states that no accidents have ever occurred with chloroform administered in the way he recommends, although the number of instances in which it has been given is immense, as the method is now the regulation one of the French marine. The chloroform must be chemically pure, the first dose of it is not to exceed ten grammes (two and a-half drachms), and it is rare that more than five grammes additional are required for the whole time of anæsthesia. The apparatus is merely a pasteboard cone with an incomplete diaphragm of swansdown, which receives the chloroform and allows the air to be inhaled freely. Fischer (Wien. Allg. Med. Zeit.) recommends a glass of wine to be given fifteen to twenty minutes before the inhalation, as a means of preventing vomiting and syncope.

Vevey.—*On the Physiological action of Coca.* Echo Med. Suisse. Ann. de Thérap, 1862, p. 38.

In small doses coca acts as a tonic, enabling the person to resist fatigue, in larger it acts as a narcotic, causing a sense of general *bien être*, and indisposition to bodily or mental exertion.

CRUZADO.—El Siglo Medico, 1861, p. 231. Brit. & For. Med.-Ch. Rev., July.

Records a case of apoplectiform intermittent fever, the symptoms consisting of red face and conjunctivæ, dilated and insensible pupils, coma, heat of skin, hard pulse. There were complete intermissions, but the attacks recurred for three days in spite of quinine and bleeding. After two baths improvement occurred. Accessions still took place, but finally ceased under the influence of hydroferrocyanate of iron and calomel given in the intervals.

WITTMEYER.—*On Anæsthesia.* Deutsche Klinik. 1862, No. 20, 21, 24, 27.

Wittmeyer finds that chloroform applied to the skin possesses well-marked specific anæsthetic properties. These are best shown when evaporation is prevented. It is, however, useless as a local anæsthetic, on account of the inflammation and burning pain which it causes. Liquor Hollandicus (elayl chloride) and æther hydrochloricus chloratus are excellent anæsthetics, but their high price prevents them being generally used. When applied more than five to seven minutes, they become irritants, and cease to act as anæsthetics. Æther produces some anæsthesia by its evaporation and consequent refrigerating effect, and also a notable amount after long application (forty-five minutes).

CUTTER.—*On the Employment of the Veratrum viride in some of the Neurotic Diseases.* Lond. Med. Rev., Aug.

In ordinary epileptic convulsions in adults and children, in severe chorea, puerperal convulsions, and puerperal mania, it has proved of great efficacy, according to the experience of American practitioners.

BENEDIKT, M.—*On the Action of Iodine and Pot. Iod. on the Nervous System.* Wien. Ztschr., xviii, p. 94, 1862. Schmidt's Jahrb., vol. 115, p. 284.

Benedikt finds that subcutaneous injection of pot. iod. in frogs speedily destroys sensibility and contractility. This is the result of its action on the nerves, as it affects limbs which are severed from the trunk, excepting their main nerve, and does not occur in limbs which have only had their nerve divided. The respiratory movements are paralysed before the cardiac, and these continue much longer than those of the muscles of the limbs. With larger doses the cardiac paralysis occurs earlier, before that of the limbs. When pot. iod. is used, respiration, circulation, and muscular contractility are extinguished together at nearly the same time. This takes place also much more rapidly when iodine or pot. iod. is applied to the central end of the spinal cord, than when it is absorbed. The reverse is the case when the agents are applied to the lower end of the cord, or to the exposed sciatic nerve. Benedikt is inclined to consider that the ordinary effects of iodine and its preparations on the system are produced through the medium of the trophic nerves, the sensory and motor being only affected by large doses.

Inman, T.—*On Apoplexy.* Lond. Med. Rev., August.

Inman gives an emetic if the stomach be loaded. If the face be congested, he resorts to local bleeding. If the heart be hypertrophied and contracting strongly, he practises a small venesection. If none of these conditions are present, the sole indication is to sustain the vital powers, and restore, if possible, the cerebral circulation.

Henoch.—Deutsche Klinik, No. 22.

Records a case of chronic hydrocephalus, cured chiefly by the internal use of calomel and digitalis, with inunction of mercurial ointment on the head. Cod-liver oil was also given. There was no actual paralysis, except perhaps of the sphincter ani, but the child, aged three years, was unable to stand or sit. Recovery was complete in about four months.

PSYCHIATRIK.

Nasse.—Allgem. Ztschr. f. Psychiatrie, xviii, 1861. Schmidt's Jahrb., vol. 115, p. 335.

Nasse, in examinations of the specific gravity of the brain in the insane, finds that the specific gravity of the cerebrum is less than that of the cerebellum; that of the cortical part less than that of the medullary; and that the specific gravity of the spinal cord is less than that of the cortical part of the hemispheres. The specific gravity is above the average in hyperæmia, and also when the tissue has been compressed by considerable serous accumulations. The highest specific gravity is found in patients who have died of acute inflammations of other organs. The specific gravity is diminished in anæmia, softening, atrophy, and œdema, both in the brain and cord. In paralytic idiocy, the specific gravity of the spinal cord is increased, while that of the cortical substance of the brain is diminished. There is no determinate relation between the age and the duration of the disease on the one hand, and the specific gravity on the other.

Schlager, L.—*Semiotic Signification of the Alterations of the Voice in the Insane.* Œster. Ztschr. f. prakt., Heilk. viii, 1862. Schmidt's Jahrb., vol. 115, p. 335.

The compass of the voice appears to increase in many patients, especially in paralytic imbeciles. The strength of the voice is essentially related to the degree and character of the psychical condition; increase is observed in general in states of exaltation, decrease in states of depression. In maniacal excitement there is often variation in the strength of the tones in a continuous discourse. The tone of the voice is frequently altered, and recovery after insanity can never be considered complete and secure until the voice has regained its natural tone. Many particulars are mentioned respecting the changes of the voice in various states, for which we have no space.

GUTSCH, A.—*On Mental Disturbances in Solitary Confinement.* Allg. Ztschr. f. Psychiatr., xix, 1862. Schmidt's Jahrb., vol. 115, p. 336.

Gutsch's observations were made at Brucksal, and extend over twelve years. During this time there were eighty-four cases of insanity (3·15 per cent.), and nine cases of suicide. Only one of the latter had previously shown marked symptoms of mental disease. Gutsch thinks it certain that solitary confinement increases the liability of criminals to mental disease. Those of limited faculties are most prone to suffer, while mental culture and education during the term of imprisonment seem to act protectingly. The injurious effect is most apparent during the first year, and diminishes subsequently. In most cases an individual predisposition could be made out, or other causes of the insanity beside the isolation. The majority of the cases were favourable ones, more than half were slight, and the recoveries amounted to 70 per cent. One remarkable peculiarity was, that the insanity often commenced with hallucinations of hearing, or some single delusive idea; of fifty-eight cases of this kind, twenty-nine were cured solely by removal from solitude. Gutsch does not consider that the disadvantages of solitary confinement outweigh its beneficial effects.

COOK, G., M.D.—*The Relations of Inebriety to Insanity.* Amer. J. of Insanity, April, 1862. Med. Critic, Oct.

Cook states his opinion that intemperance is entitled to the same place among the symptoms of insanity as any other human appetite or action; that when associated with other symptoms of cerebral disorder it may, and often does, indicate insanity; that when unaccompanied by such symptoms, it ought not to be regarded as a symptom even—much less should it be considered as forming a specific type—of mental disease. He objects to the term "dipsomania" as incorrect and productive of evil consequences, and regards the craving for alcohol as no more an evidence of insanity than the oriental passion for opium or Haschish. In all these cases the influence of habit is not sufficiently considered.

Report respecting Insanity in Holland during the Years 1857—1859. Schmidt's Jahrb., vol. 116, p. 237.

A short abstract only is given of the report, which appears to contain much important matter. In several asylums it was found that the non-restraint system could not be carried out completely, and that it was necessary to have recourse to other means. Of a total of 550 (363 M. + 187 F.) it is reported that 240 died in the asylums, 77 were sent out uncured, and 233 cured. Schröder v. der Kolk recommends very careful examination of the cortical part of the brain, noting whether there is any morbid adhesion of the pia mater, or reddening. He has come to the conclusion that inflammation of the grey matter of the anterior cerebral lobes is attended with mental confusion, mania, dementia, while a similar state of the superior and occipital convolutions induces rather emotional disorder, the insanity assuming the form of melancholy, self-accusation, fear of poisoning, &c.

Austin and Duchemin.—*Behaviour of the Pupils in General Paralysis.* Annal. Med.-Psych., 2^{e} sér., Jan. 1862. Schmidt's Jahrb., vol. 116, p. 241.

Between the state of the iris and the mental condition of the patient as regards delirium, there exists an intimate connexion. If both eyes are equally and moderately affected, there is no delirium. If the disturbance in the eyes are marked, and are alike in both, the delusive ideas are mingled or alternating. If both pupils are affected, but the one more than the other, the delirium is of a mixed kind, but so that melancholy ideas predominate when the right pupil is chiefly deranged, and maniacal excitement and ambition when the left suffers. The condition of the pupils is not constantly the same, but varies with the phenomena of the disease.

The State of Lunacy in Ireland. Med. Critic and Psycholog. J., Jan. 1862.

The question whether insanity is on the increase in Ireland cannot be answered with certainty. An apparent increase there certainly is, but the following circumstances will perhaps account for it without admitting that the disease is actually more frequent. (1) The life of the insane is prolonged by the greater care taken of them. (2) Various mental states are now considered indicative of lunacy, which formerly were not. (3) The public are less averse to acknowledge the existence of insanity in their connexions than formerly. (4) Emigration has greatly diminished the general population, but not the lunatic. The total number of lunatics, idiots, imbeciles, and epileptics existing in Ireland, exclusive of those confined in asylums, gaols, and workhouses, amounted in April 1st, 1861, to 8991, of whom 4959 were males and 4032 females. The number of lunatics, idiots, and epileptics in the union workhouses, at the same date was 2534, 965 being males, and 1569 females. The total number of patients in asylums during the year ending March 31st, 1861, was 5437. During the two last years the number of absolute recoveries was 1201, and 298 were discharged improved, and 127 unimproved, on the requirement of their friends. In 60·11 per cent. of the total number of recoveries, asylum-treatment had been had recourse to within four months from the appearance of the disease. Moral causes appear to produce insanity among females in a higher ratio than among males, 532 : 368 ; while the reverse is the case with physical influences, the ratio being 505 : 286. Hereditary transmission was traceable in 495 cases, and the same with intemperance was accused as the cause in 818 out of 2186. As to the educational condition it appears that only 266 are well educated, 625 read and write well, 974 indifferently, while fifty-six per cent. are uneducated.

Billod.—*On Lesion of Association of Ideas.* Ann. Méd. Pyschol., 2^{e} sér., Oct. 1861. Med. Critic and Psycholog. J., Jan. 1862.

Billod, after pointing out various ways in which our ideas are associated, remarks that there is one fundamental distinction between them, viz., that some are merely *accidental*, depending on chance, or accident, while in others the ideas are necessarily connected, and have, it may be said, *constant relations.* The habit of associating the ideas in accordance with accidental or with constant relations causes a marked difference between different orders of mind, *e. g.*, between wits, poets, and men of imagination on the one hand, and thinkers and savans on the other. He then alludes to the false judgments of insane persons caused by a vicious association of ideas, and which almost always result in a tendency to substitute a constant for an accidental association. In the general delirium of acute mania, the faculty of associating ideas participates in the general excitement, but being disordered, and the ideas being in the hurry but partially uttered, incoherence is the result. In partial delirium the disorder of association is more easily traced, and the author gives numerous illustrative instances.

THEILE, FR. W.—*On Microcephalia.* Henle u. Pfeuf. Ztschr., 3rd Ser., xi, 1861. Schmidt's Jahrb., vol. 113, p. 157.

Theile, after giving a minute description of the peculiarities of a case which he examined, subjoins the following more general conclusions relative to this malformation, at which he has arrived from this and other recorded cases. Healthy parents may produce one or several microcephali. These beings sometimes are of ordinary, sometimes of small size. They generally die early. The brain and the face are imperfectly formed, as well as the skull. The jaws project, the eyes are approximated to each other, as in apes, the roof of the orbit is contracted. The sutures are often, but not invariably, prematurely ossified. The subjects are always idiotic.

SNELL.—*Erroneons Identification as a Symptom of Insanity* Ztschr. f. Psychiatrie, vol. xvii, p. 545. J. of Mental Sc., July, 1862.

Snell concludes (1) that mistaken personal identification, and also illusory conceptions of places and objects, are among the most frequent phenomena of mental disorder, and the most certain and readily observed of its symptoms. (2) They indicate by their intensity and generality the degree of mental excitement, and are in general favourable in reference to prognosis. (3) They are more prevalent the more recent the mental disorder is. (4) In the transition of the so-called primary forms of insanity into the secondary, mistaken identification not uncommonly makes its appearance, and is then of bad augury. (5) In the progress of primary mental disorder towards recovery the disappearance of this form of aberration is one of the most certain indications of approaching convalescence.

YELLOWLEES, D., M.D.—*Homicidal Mania: a Biography; with Physiological and Medico-legal Comments.* Edin. Med. J., Aug. 1862.

The patient in question had orignially been a carpenter, but by great efforts had become a small publisher and bookseller. In consequence of his persuasion that he had suffered various wrongs and injuries for which justice was denied him, he was continually planning revenge and making attempts to take the life of some one of his attendants. He lapsed finally into dementia and died, æt. 73, with bronchitis and asthma. The brain was found atrophied, the cerebrum weighing but thirty-five ounces and a-half, and the cerebellum five ounces and a-half. There were three very distinct patches of softening, containing greyish-white semifluid matter. All the arteries of the brain were more or less atheromatous. On comparing the cast of the head, taken after death, with another, taken about seventeen years before, there was found to be a very remarkable difference between them, not in form only, but also in size, the head having become less during these seventeen years by an amount equal at least to twelve cubic inches. The change in form is very marked, affecting of course the roof of the skull, and not the base. It is chiefly obvious in the shortening of the distance between the root of the nose and the occipital spine, and in the change of the corresponding arch, which is flattened in the frontal and occipital regions. Yellowlees distinguishes (1) Homicidal monomania, or a motiveless impulse to shed blood, without any other indication of insanity: (2) Homicidal impulses occurring in Melancholia, the latter preëxisting as a form of insanity, and suggesting in some measure the homicidal idea by the misery it causes: (3) Homicidal mania, where delusion of some kind prompts the murderous desire. He concludes with showing that there are various degrees of criminal responsibility in the insane.

Carmichael M'Intosh, W.—*Mollities Ossium in Insanity.* Edin. Med. J., Aug. 1862.

Two cases are related, both of which occurred in females, past the middle period of life, each of whom had been the subject at one time of suicidal melancholia, the disease, in fact, retaining certain of its characteristics to the last. The eldest had partly lapsed into the dementia so often consecutive to the graver mental maladies; the other was active-minded and despairing throughout. Both were unmarried, and had led sedentary lives. One became insane at the comparatively early age of twenty-two; the other at fifty-six. Each had spent about ten years in the institution since last admission, and both were hopeless cases of mental disease. The younger for a long time before death was almost purely a vegetarian. Both patients complained of great pain in the bones affected, had fatty disease of the kidneys, and of the liver. In the one abundant crystals of the triple phosphate were found in the urine; in the other no urine could be collected before or after death, but the crystals were numerous in the fluids of the encephalon. In the younger the frame was emaciated in the extreme, and the lungs were tubercular; in the other there was abundance of adipose matter and no tubercles. The microscopic aspect of the (softened) bone contents showed a much greater amount of granular matter than in the healthy bone, irregularity in the shape of nucleated cells, which sometimes were elongated, numerous blood corpuscles, and an enormous preponderance of fatty masses and globules. The lacunæ were enlarged and the canaliculi had disappeared to a corresponding extent. The margins of the apertures on the surface of the ribs near the softened portions, which gave entrance to processes of periosteum, had a rugged granular aspect, and molecular disintegration seemed at work there with especial vigour. In the ribs there were certain callus formations, the result of frequent fractures; these appeared for the most part of healthy structure, but in some places were encroached on internally by softened pulp.

Flemming.—*On Insane Institutions and Insane Colonies.* Allg. Ztschr. f. Psychiatrie, xvi, 1859, xviii, 1861.

FALRET.—*Report on Gheel.* Annales. Med. Psychol., Jan., 1862. Med. Critic and Psychol. J., April, 1862.

Both authors believe that the colonial system is, on the whole inferior, to that of the asylum; it may be preferable for certain cases, and the one may be made to supplement the other. Flemming does not speak hopefully of the practicability of attaching insane colonies to existing asylums. Falret suggests that it may be possible to annex to the asylums for the insane an agricultural farm, receiving patients from, and sending them back to the asylum, as need may arise, under the advice of the physician. This form may also render the asylum in some measure self-supporting.

KOSTER.—*On the Influence of the Moon on Periodic Insanity.* Allg. Ztschr. f. Psychiat., xvi, 1859, xviii, 1861. Schmidt's Jahrb., vol. 114, p. 351.

Koster regards especially the influence of the greater or less distance of the moon from the earth. He states that the commencement of an attack of mania coincides, or nearly, with the perigæum, and the termination with the apogæum. Intercurrent bodily disorders exert a transitory influence on the duration of the periods of periodic insanity, but not on the principal character of its type.

ADDISON, A.—*On the Pathological Anatomy of the Brain in Insanity.* J. of Mental Science, April 1862.

Addison in his prize essay reviews the various morbid alterations which are met with in cases of insanity, and concludes that the pathological lesions of the cerebral tissue are not the final and ultimate causes of insanity; for in all cases it is necessary to assume a special and specific irritability of the nervous tissue peculiar to the insane.

American Insane Hospital Reports. Mount Hope Institution. Amer. Q. J. of Med. Sc., April 1862, p. 482.

The author, while admitting the liability of the doctrine to be abused, contends for the real existence of a moral insanity, in which certain feelings and passions are disordered, without any aberration of intellect. Homicidal impulse, and oinomania, seem to be similar affections, where the morbid impulse is unaccountable and uncontrollable.

Report on the Lunatic Asylums of Holland for 1857, '58, '59. Review. Brit. & For. Med.-Chir. Rev., July, 1862.

The total mortality in all the asylums was 801, of which apoplexy caused 120, marasmus 305, diarrhœa 22, phthisis 155, other diseases 199. Epidemics of ague, catarrhal ophthalmia, and smallpox prevailed in one or more of the asylums. Many, and some remarkable, cases were observed of recovery, sometimes from an apparently incurable state, in consequence of the supervention of intermittent fever. In such cases it seems from the evidence adduced that the ague should be left to itself. This, however, applies to sporadic, for epidemic ague may produce mania, and its cure is beneficial in cases of insanity. A remarkable instance is mentioned of a woman who had been twenty-eight years in a state of melancholy, requiring

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to be fed by force. After a dangerous attack of cholera she recovered completely from her insanity. Alluding to some important instances of spontaneous recovery, the reporters remark that they prove that tolerably well-marked organic changes in the brain may take place, which, nevertheless, may subsequently disappear; for such long-continued disturbance of the imagination and of the understanding cannot be supposed to exist without simultaneous organic changes in the brain, which are, if they are only carefully looked for, constantly discovered on post-mortem examination. In cases of grandiose mania, and cases of onanism, bodily labour is one of the most efficacious remedies. The reporters do not speak favourably of De Saulle's method of giving opium. In some few cases the expulsion of worms was followed by the speedy recovery of the patient.

ALBERS.—*On the Temperature of the External Surface, especially of the Head, in the Insane.* Allg. Ztschr. f. Psychiat., xviii, p. 450, 1861. Schmidt's Jahrb., vol. 115, p. 207.

Albers found in numerous trials that the difference between the temples, behind the ear, and the neck, amounted on an average to 4°·5 F., that in the neck being the highest. A diminution of the difference between the temperature of the temples and of the ear is a sign of the increase of the temperature of the head. Imbeciles have the same temperature of the head as other insane, and it increases at periods of excitement.

ALBERS.—*On Parenchymatose Infarction of the Brain in Chronic and Acute Forms of Insanity.* Virchow's Archiv, xxiii, p. 7, 1862. Schmidt's Jahrb., vol. 115, p. 207.

This condition is characterised by deposition of amorphous, granular, albuminous matter between the normal tissue elements, with irregular development of blood-vessels in the affected spots. The disease often extends itself over the whole organ, and frequently proves fatal by paralysing its function. The brain is then, especially in its white substance, exceedingly tough, heavier than normal, the ventricles have disappeared, and are almost devoid of serum. The course of the disease is generally acute, the chronic form is produced by regression of the acute, and may return to the acute state for a time by relapses. The symptoms of the former are continuous headach with depression of spirits, increased irritability and great restlessness, normal or even slow pulse. The absence of peripheric phenomena in the nervous system distinguishes infarction from inflammatory conditions. Albers distinguishes a scrofulous and a typhous kind of infarction. The first occurs in slightly-developed irritable scrofulous patients, and generally affects the whole cerebrum. It appears only in childhood and youth, and allows the intellectual development only to attain a certain degree, but disposes to cerebral irritations, and inflammations of the cerebral membranes. In the years of development insanity sets in with monomaniacal character, yielding sometimes to antiscrofulous treatment. Typhous infarction occurs especially in cases attended with delirium and sudden sinking of the strength, which are apt to prove unexpectedly fatal. If recovery ensues, insanity commonly follows, or a maniacal affection, which almost never ends in recovery. In cases of partial recovery the exudation undergoes change into connective tissue.

ALBERS, J. F.—*On a Form of Acute Mania with Inflammatory Lesion of the Brain, and on the Indications for the Administration of Digitalis.* Zeitschr. f. Psychiatr. vol. xvii, p. 305. J. of Mental Sc., July 1862.

Albers, from numerous experiments and observations on the lower animals, as well as on man, deduces the following conclusions:—(1) Digitalis reduces the pulse in frequency, but does not disturb the rate of breathing. Even when the heart is empty and brought to a standstill the regularity of the respiration proceeds. (2) The urine is increased in the healthy, and still more in those suffering from inflammatory dropsy, accompanied by inflammatory irritation of the serous membranes of the chest and abdomen. It subdues the inflamed state of the kidneys and restores them to their normal functional activity. In mental disturbance dependent on cerebral inflammation, especially of the serous membrane, digitalis exerts a remarkably curative effect when given after preliminary abstraction of blood and the use of antiphlogistics. (3) The solids of the urine are increased in amount, and particularly the urea, as shown both by chemical examination and by an increase of specific gravity. This alteration in the urine becomes manifest when the digitalis has reduced the frequency of the pulse, and produced a feeling of lassitude. (4) The temperature of the body is reduced and equalised. (5) Vertigo, lassitude, debility, and moroseness accompany the reduction of the pulse by the drug. The last-named condition is a remarkable symptom associated with the operation of digitalis on the system. (6) The drug is applicable only to those cases of madness dependent on some inflammatory lesion.

MEYER, L.—*On the Use of Opium in Mental Disorder.* Ztsch. f. Psychiatrie, vol. xvii, p. 453. J. of Mental Sc., July 1862.

Meyer finds opium very beneficial in cases of ecstatic mania, and whenever an hysterical condition accompanies mental disorder. He holds as a general truth that opium acts as a powerful conservator of vital power, a restorer of expended energy and of prostrated nervous vigour.

BERTHIER, P.—*Fever in its Relations to Mental Disorder.* Ann. Med.-Psych., Jan. 1861. Schmidt's Jahrb., vol. 114, p. 80.

Every fever, says Berthier, has an influence on mental disorder, sometimes a beneficial, sometimes an injurious, sometimes a transitory. Temporary improvement occurs in cases of excited delirium, deterioration often takes place in the melancholic, and in those whose delirium is complicated with convulsions or paralysis. A complete cure was observed in a female in the twenty-seventh month of her insanity and the second year of her treatment, after she had passed through a continued fever of bilious and adynamic character. In another case the cure ensued on variola, in a third on pneumonia. Tuberculosis and erysipelas have appeared to influence insanity beneficially, but extensive burns and dysenteries have not.

Castiglione, C.—*Statistical Report respecting the Insane in Lombardy in the Year* 1855. Gazz. Lomb. 13, 1861. Schmidt's Jahrb., vol. 114, p. 83.

The proportion of the insane, including idiots and cretins, to the whole population is 1 : 1136, that of the females being 1 in 1170, and that of the males 1 in 1106. The total number of insane is 3333, of whom 837 are cretins, and 148 idiots. Of the former no less than 730 belong to the mountainous district of the Valtelline, with a population of 50,610. The reporter, Finkelnburg, remarks that the tendency of one or other sex to be most affected by insanity varies in different countries and at different periods, according to the habits, education, political and religious condition of the population. In the different districts of Lombardy the proportion of the insane to the whole population varies much, in the Valtelline being as 1 : 716, in the Milan district 1 : 940, and in the marshy, malarious district of Mantua 1 : 1622. The cases are grouped as mania 912 (428 m., 484 f.), melancholia 504 (268 m., 236 f.), and dementia 1070 (599 m., 471 f.). Cases of monomania are probably included under the head of mania.

Brierre de Boismont.—*On Hallucinations in Insanity.* Med. Critic and Psychol. J., April 1862.

The hallucinations of mania are more frequent than those of acute delirium, but illusions, either alone or combined with hallucinations, are the predominant sensorial phenomena. The preponderance of illusions is due to the circumstance that, although the cohesion of ideas is more decided in mania, the faculty of attention is seriously impaired, and the imagination is therefore continually the sport of external impressions. The hallucinations and illusions of mania are often numerous, continual, confused, and changeable. The most frequent are those of hearing and sight. Hallucinations and illusions of all the senses are more frequent in this form of madness than in others. It is not always easy in cases of mania to distinguish hallucinations from illusions, not merely on account of the mobility of the impressions and want of attention, but also because of the existence of real sensations. The want of fixity in the impressions produces the most perplexing oppositions and contradictions; the hallucinations and illusions themselves possess also a character of general incoherence. The physiology of hallucinations and illusions furnishes materials for their clearer comprehension. The frequency of illusions in mania is due to the want of attention. Any kind of noise may give rise to illusions of hearing; those of sight are more specially characterised by changes of person. The illusions of touch, smell, and taste are generally of a painful and disagreeable nature. Hallucination and illusion may precede and give rise to mania, or may be replaced by it, the latter being but a transformation. Illusions change sometimes to hallucinations, and *vice versâ.* Hallucinations, though generally primitive in mania, are sometimes symptomatic. Hallucinations are of great importance from a medico-legal point of view, for they are often the cause of acts of violence, attempted theft, incendiarism, murder, suicide, &c.

Down, L. H.—*On the Condition of the Mouth in Idiocy.* Lancet, Jan. 18th.

Excessive arching of the palate occurred in 58 per cent., excessive flattening in two per cent. In the majority of cases there was marked narrowness of the palate. In seven out of 200 the palate bones did not meet, but no instance occurred of cleft palate; nor has Down met with this deformity among 600 idiots. There is no direct relation between the width of the palate and the cranial capacity, for in a microcephal, whose palate was $\frac{22}{24}$ inch wide, the internal canthi of the eyes were $\frac{23}{24}$ inch distant from one another; while in a macrocephal, whose palate was $\frac{23}{24}$ inch wide, the distance between the canthi amounted to two inches. The chief characters of the teeth in idiots are, that the period of the first dentition is delayed, the second considerably postponed, and that they undergo very general and rapid decay. The mucous membrane and glands are large, and the latter hypertrophied. The tongue is large, enervated, and rugous, deficient in its co-ordinated movements, and in its special function. The saliva dribbles from the mouth.

Guggenbuhl.—*On Cretinism at the Abendberg.* Comptes Rendus, vol. 51, No. 24. Brit. and For. Med.-Ch. Rev., Jan. 1862.

Guggenbuhl affirms that cretinism consists in various pathological alterations in the cerebro-spinal system, which produce the irregular and slow development of the body, and the characteristic obtusion of the senses and intellect. Cretinism is only exceptionally hereditary; it admits of much more improvement than idiocy, in which the frame is usually well-developed and robust. The post-mortem appearances are as follows:—(1) For the most part œdema of the brain, with anomalies in the lateral ventricles, which are dilated; at a later period softening of the neighbouring convolutions; (2) Imperfect or retarded development of certain parts of the brain, especially the anterior and posterior lobes; sometimes general atrophy; rarely hypertrophy of the organ; (3) Hardening of the brain or of some parts; (4) Hypertrophy of the cranial bones which compress the cerebral substance; (5) The premature closure of the cranial sutures by inflammation frequently produces a deformation of the head in cretins and idiots; but as the same is often found in quite intelligent people, the disease cannot be attributed to such changes.

Mitchell, A.—*On Illegitimacy as a Cause of Idiocy.* Med. T. and Gaz., March 1st.

In eight Scottish counties Mitchell states there were, during 1858 and 1859, out of 21,932 births, 2403 illegitimate. In the same counties there were 703 idiots and imbeciles; excluding 71, of whom no information could be obtained, there remain 632, of whom 108 were illegitimate. Supposing the viability of legitimate and illegitimate children to be the same, and that they have the same average lease of life, one-ninth of the community would consist of bastards, and this ninth would give more than one-sixth of all the idiocy ($\frac{1}{5\cdot 8}$). This alone makes the conclusion probable that illegitimacy is an important cause of idiocy, but as the infant mortality of the illegitimate is very greatly higher than that of the legitimate, it is certain that that section of the community which yields this sixth part of all our existing idiocy is by no means so large as one-ninth. Mitchell quotes statistics from Casper and Quetelet, which all go to show that illegitimate children are prone to have a feeble and imperfect organisation. Thus, at Berlin, every twenty-fifth child of the legitimate, and every twelfth child of the illegitimate, were stillborn, and, after birth, the mortality of the former before the age of five is to that of the latter as 6 : 10·3.

MITCHELL.—*Marriages of Consanguinity, their Influence on Offspring.* Edin. Med. J., March.

Mitchell's conclusions are the following:—(1) It is a law of nature that the offspring is injured by consanguinity in the parentage. (2) That this injury assumes various forms. (3) That in all classes and conditions of society its manifestations are not alike. (4) That the evil appears to be in some measure under control. (5) That isolated cases or groups of cases may present themselves, where, in addition to consanguinity, all the other circumstances are so unfavourable that a confident prediction of much evil would be justified, yet where no such evil appears. (6) That, where the children seem to escape, the injury may show itself in the grandchildren, so that the defect may be potential where it is not actual. (7) That, as regards mental disease, unions between blood relations influence idiocy and imbecility more than they do the other forms of insanity. (8) That, with reference to Scotland, it may be estimated with safety that about nine or ten per cent. of existing idiocy is referrible directly to consanguine marriages. In forming this estimate the proper deductions were liberally made, so as to avoid an over-statement.

DUNCAN, P. M., M.B.—*A Description of some of the most Important Physiological Anomalies of Idiots.* J. of Mental Sc., Jan. 1862.

Duncan states it as a rule, that the greater the physical defect, the greater the idiot, and the reverse; there is more chance of low intellectual power being developed if there are no great physical defects. In many idiots there exists most remarkable indifference to cold and heat, or pain. Some patches of the surface may be more anæsthetic than others. Increased cutaneous sensibility is, however, more frequent, and may also be local or general. The latter is common among active and irritable idiots, the imbecile and epileptic; it is accompanied by excitement of the reflex functions, increase of the temperature, and frequency of the pulse. Various perversions of the special senses are observed, and of the powers, especially the faculty of co-ordination, is very defective.

M'ILWAINE, W., Rev.—*On Œnomania, its Prevalence and Treatment.* J. of Mental Sc., Jan.

The author advocates forcibly the interposition of the law in cases of irresistible tendency to drunkenness. In some cases, on the sworn deposition of friends and neighbours, the person might be placed in an asylum. In others the œnomaniac himself, during a lucid interval, might sign an instrument, consigning himself to the custody of properly qualified guardians.

MUSCULAR SYSTEM.

ZURADELLI.—*On Contraction of the Arm.* Gaz. Med. de Paris, Oct. 19th, 1861. Brit. Med. J., Jan. 25th.

The affection is more frequent in males than in females, at or after the age of thirty, and in rheumatic subjects. The development is often preceded by the prolonged influence of cold and damp. The biceps is mostly first affected, then the supinator longus, and, lastly, the coraco-brachialis. The muscular spasm is generally tonic; sometimes, however, it is clonic. Lesions of sensation are always present, varying in seat and form. Sometimes there is severe pain, more generally a painful feeling of weight and twitchings at the insertions of the tendons; or there may be an extreme lassitude felt in the whole limb, or in its upper segment alone. Considerable atrophy occurs at the end of about a month. Local and general bleeding, quinine and narcotics, are certainly useful in acute cases of rheumatic nature. In most cases rapidly intermitting induced currents of electricity, applied to the antagonists of the contracted muscles, are of most avail.

GUBLER.—*On Muscular Atrophy following Acute Diseases.* Gaz. Méd. de Paris, Dec. 28th, 1861. Brit. Med. J., Feb. 22nd.

Gubler regards this affection as one of the direct consequences of acute diseases, as it appears independently of any previous paralysis arising from lesion of the nervous system. It may be partial or general, local or diffused. Its duration is generally brief, but in some instances may be prolonged, and the disorder then simulates progressive muscular atrophy. In the way of treatment, a nutritious diet, and stimulant and tonic remedies, are indicated, with galvanic excitation in chronic cases.

MÜLLER, A. D.—*Progressive Muscular Paralysis in the Tongue, Soft Palate, and Lips.* Hospit. Tidend. Nos. 22, 23, 1861. Schmidt's Jahrb., vol. 113, p. 169.

Müller gives one case in full detail, and subjoins the following remarks: —It is especially characteristic that there ensues no atrophy in the paralysed muscles; they do not lose either their electric sensibility. Paralysis of the soft palate is announced by the speech assuming a nasal character, and the labial letters being so imperfectly pronounced that they are scarcely intelligible. Closure of the nostrils restores the faculty for the time, by preventing the air from escaping in the wrong direction. In most cases, but not in the author's, fluids when swallowed returned in part by the nose. The power of protruding the lips was impaired; the vowels O and U could not be pronounced. The buccinator muscle was not paralysed; the patient could blow pretty strongly. The affection is distinguished from paralysis of the soft palate, succeeding to simple or diphtheritic angina, by the lip and tongue not being involved; from double facial paralysis, by the different behaviour of the muscles towards electricity; from general paralysis of the insane, by the movement of the tongue being quite free, and there being no special difficulty in articulating certain letters. It is only in rare cases, and in the advanced stage, that progressive muscular atrophy is associated with progressive muscular paralysis. Müller considers that the real seat of the disease is in that part of the encephalon which regulates the articulation of words, and the voluntary part of swallowing.

REMAK.—*On the Curability of Progressive Muscular Atrophy.* Œsterrh. Ztschr. f. prakt. Heilk., viii, 1862. Schmidt's Jahrb., vol. 114, p. 29.

Remak records a case which had commenced a year before it came under his notice, and had got worse, in spite of local faradisation of the affected muscles. Warm baths and douches to the neck, which at the beginning had been the seat of violent pain, had afforded some transitory relief. A constant current from a battery of fifty or sixty elements was first passed through the paralysed parts of the left arm once or twice a-day, for fifteen minutes at a time. Some improvement was obtained, not only in this, but also in the right arm, which was not galvanised. The size of the muscles, however, did not increase, and those of the neck and shoulders had wasted more, and fibrillary contractions were more apparent after fourteen days' treatment. Remak then proceeded to apply the current to the neck region, which speedily improved the muscular power, and after forty séances, in the course of three months recovery was almost complete. Improvement was most rapid when the current was passed along the cervical sympathetic. The metacarpal bones, which had been much swelled, diminished in size. Remak concludes (1) that the disease is not one of the muscles, but of the cervical part of the cord, and sometimes also of the sympathetic ganglia; (2) that it is of inflammatory nature, and requires at the commencement local depletion, and warm douches to the cervical spine; (3) the induced current is injurious, the constant may, under favourable circumstances, obtain a cure, and in others an arrest of the disease.

HEMPTENMACHER, C.—*On the Etiology of Progressive Muscular Atrophy.* Inaug. diss. Berlin, 1862. Schmidt's Jahrb., vol. 114, p. 307.

Hemptenmacher reports several cases of much interest. The principal points they illustrate are the hereditary tendency of the disease, and its frequent limitation to the male sex. In one autopsy, the anterior spinal roots were found much atrophied, the posterior to a less degree; the posterior columns degenerated, with corpora amylacea among them.

EMPIS, G. S.—*On Advancing Muscular Weakness of Old Men.* Arch. Génér. 5^e sér., xix, April, May, 1862. Schmidt's Jahrbuch, vol. 115, p. 174.

The pathological state consists of anæmia, giddiness, disordered sensibility, subjective debility, and in some cases marasmus. Its course is sometimes acute, sometimes chronic. Death may ensue from syncope. Insufficient food and depressing circumstances are the chief causes. Treatment is by iron and strychnia, steadily persevered in for weeks or months. Short warm baths and gentle stimulation of the skin, are also useful.

CIRCULATORY SYSTEM.

Bell, Jos., M.D.—*Practical Remarks on the Diagnosis and Treatment of Rheumatic Pericarditis and Endocarditis.* Glasgow Med. J., April, 1862.

Bell contends for the diagnostic value of friction-sound, though unattended with the vital or general symptoms of pericarditis. It indicates certainly an exudation. Friction-sound of the rubbing variety may alone be heard, but is usually succeeded by creaking sound. The former he thinks depends only on a congested state of the vessels of the pericardium, while the latter is produced by exuded fibrine. Exudations, he believes, may entirely disappear, so that no post-mortem appearances of disease may be discovered in patients who have had friction-sound during the course of rheumatic fever. The same view he holds to apply to endocarditis and alterations of the valves. The deposits occurring in this situation in rheumatic fever he believes to result from a true inflammatory process, and if they did not and were mere deposits they would excite inflammation.

Kinkes, W. S., M.D.—Med. T. & Gaz., Oct. 25th, Nov. 1st.

Records a case of pyæmia from injury to the knee, in which, besides abundant secondary formations found in the lungs, there was general pericarditis, with numerous yellowish deposits in the substance of the heart. He believes that the softening and rupture of some of these had set up the serous inflammation. The valves were healthy. The changes found in the muscular texture of the heart seem not to be the result of mere inflammation, but to result from secondary deposits of the same nature as those found in the lungs and various other parts. The diagnosis of this kind of disease from rheumatic pericarditis, which may easily be mistaken for it, turns on the history of a prior injury, the more fixed character of the pain, its affecting rather the bones and fleshy parts than the joints, the greater severity of the febrile symptoms, the occurrence of rigor, the greater amount of nervous disorder, the absence of the characteristic odour of rheumatism, and the presence of an eruption of small pustules on the face, limbs, and trunk. The treatment must be tonic, stimulating, opiate, and nutritious.

Leudet, E.—*On Secondary Pericarditis.* Arch. Génér. xx, July, 1862. Schmidt's Jahrb., vol. 116, p. 178.

Leudet observed idiopathic pericarditis only seven, secondary (acute) thirty-six times. Old pericarditis was found in fifty-eight out of 1003 autopsies, the adhesions in thirty-three cases being partial and in twenty-five complete. In autopsies pericarditis was found (recent) coexisting most frequently with heart-disease (twelve times), with phthisis (eight times), with pneumonia (six times). Clinical observation shows, however, that it occurs most often in acute rheumatism, viz., twenty-one times in eighty-six cases. In the thirty-six acute cases the disease was latent twenty times, thirteen times in eighteen cases the disease was dry, and eleven times in as many of the exudative form.

WARBURTON BEGBIE.—W. Edin. Med. J., Oct.

Records a case of malignant disease of the œsophagus succeeded by sudden pericarditis, and ultimately by pneumo-pericardium with effusion. The signs were friction-sound with dull percussion, succeeded after a few days by a guggling or churning sound with the heart's action, and tympanitic precordial resonance.

NEUMANN, E.—*On Cyanotic Endocarditis.* Deutsche Klinik, 52, 1861. Schmidt's Jahrb., vol. 115, p. 180.

Neumann contends, on the authority of three cases, that cyanotic disturbance of the circulation may induce endocarditis, giving rise to thickening and puckering of the mitral and tricuspid, or semilunar valves.

SALTER, HYDE.—*On Regurgitant Aortic Disease.* Brit. Med. J., Feb. 1st, 8th.

Salter insists that any source of dyspnœa induces a condition of hyperdistension of the lungs and chest, temporary if the source of the dyspnœa is temporary, abiding if abiding. This causes displacement of the heart, and unless the fact be borne in mind erroneous conclusions may be drawn as to the existence of emphysema, heart-disease, and various other conditions.

OPPOLZER.—*Diagnosis of Insufficiency of the Aortic Valves.* Brit. Med. J., March 29. Spitals-Zeitung, Dec. 21st, 1861.

After remarking on the hypertrophy of the heart which occurs in these cases, Oppolzer cautions against considering a diastolic murmur in all instances as indicating aortic-valve disease, for if it ends in a heart-sound it may depend on roughness of the lining membrane of the aorta. On the other hand, aortic insufficiency may be safely diagnosed, although the second sound is heard, provided this be immediately followed by a murmur. This results from part only of the valve being imperfect. On examination of the more distant arteries, the carotid, brachial, or crural, a loud sound is heard, or a distinct rasping murmur, accompanying the ventricular systole, while the second (diastolic) sound, which should be normally heard, is either absent or replaced by a murmur. If, together with the aortic, there be also mitral disease, the pulse, instead of being strong, full, and jerking, will be small, and the systolic sound will be absent.

LYONS, R. D.—*Commentaries on Diseases of the Heart and Vessels.* Dublin Q. J. of Medical Sc., May 1862.

Lyons remarks on the occurrence of irregular and intermittent heart and pulse, without discoverable organic disease. He has met with this state not uncommonly in persons of sixty years of age, and also in those from thirty to forty, in the latter as the result of the prostration occasioned by recent alcoholic excesses. In elderly persons he has observed also a remarkably slow and laboured condition of the circulation, the pulse being about forty, and the impulse of the heart very weak. He ascribes all these states to a weakened and probably fatty condition of the ventricles. A similar condition probably exists in another class of persons, who are rather plethoric, thirty to forty-five years old, and appear to be in robust health, but who have marked hypochondriacal symptoms, with feeble action of the heart and a shabby pulse. In some young, and to all appearance healthy, persons, Lyons has observed murmurs referrible to the ascending portion of the aorta and barely post-systolic. There may be no subjective symptom of disease whatever. The question is, whether such murmurs depend on the presence of osseous plates (atheromatous) in the aorta, or whether there is no organic change. Lyons inclines to the latter view, partly because he has known the murmur to disappear in similar instances, the action and sound being perfectly normal. He next draws attention to obstructive disease of the aortic orifice, producing in different cases the same acoustic phenomena, but with an exceedingly different general condition. In one case there is a loud systolic murmur propagated up the aorta and even into the vessels, with very good general health and a fair pulse. In the other there is the same or nearly the same murmur, but with a small weak pulse, and all the signs of obstructed circulation, pulmonary congestion, and dropsy. In both cases there is no regurgitant murmur. Lyons states, from examination of morbid specimens, that in the first of these instances there is obstruction without, and in the second with stenosis of the aortic orifice, and that this accounts for the very different effects. He records a case which he entitles one of pure uncomplicated myocarditis. The patient was between thirty and forty, and began to suffer at first with debility and unpleasant sensation in the chest, after a time could not leave his room, and scarcely could stir without increasing the heart's action. After about five to seven years he completely recovered, and the most careful examination was unable to detect anything in the least degree morbid about the heart or any other part. During the periods of excitement of the heart's action the debility was extreme, the patient's sufferings most intense, and the cardiac action almost more violent and tumultuous than Lyons had ever before witnessed. The face was flushed vividly; the pulse was rapid—120, regular, and not remarkable for force or volume. The impulse was very violent, and a loud, diffuse, systolic bellows-murmur was audible with great and equal intensity over the whole precordial region. Iron and tonics failed to give any relief. Vesication was maintained for more than ten months, and seems to have been of some benefit.

Flint, A., M.D.—*On Cardiac Murmurs.* Amer. J. of Med. Sc., July, 1862.

Flint considers (1) the limitations of their significance, and lays stress on the importance of not considering a murmur, although organic, as necessarily a serious symptom, and requiring any alteration of active habits. He gives instances where persons had lived many years in comfortable health after the discovery of a murmur, and shows what mischief may be done by needlessly alarming the patient, and filling him with anxiety. Valvular lesions become, he says, serious in proportion as hypertrophy merges into dilatation, or as weakness of the organ may be induced by structural degeneration, or other causes. The treatment should be invigorating. (2) *Aortic direct murmur.* Flint admits now that an inorganic murmur may be rough, and that roughness is consequently no proof of the organic nature of a murmur. One of the most important characters by which a direct aortic, is distinguished from a direct pulmonic, murmur, is, that the former is generally propagated into the carotid. Comparison of the aortic and pulmonic second sounds will aid in determining the amount of damage done to the aortic valve. (3) *Aortic regurgitant murmur.* The intensity of this murmur is no proof of the amount of insufficiency. (4) *Mitral systolic* (alias regurgitant) *murmur.* Flint believes that a mitral systolic murmur may or may not be regurgitant. If limited to the heart's area it is usually not, if diffused over the left side it is always, regurgitant. The aortic second sound is weakened, and the pulmonic intensified in proportion to the amount of mitral regurgitation, or obstruction. He gives some instances in which a murmur supposed to be mitral systolic, existed during life, where after death no valvular lesions were found. He suspects that in some of these the murmur was really tricuspid. (5) *Mitral direct murmur.* This is distinguished from the systolic by occurring prior to the systole, and from the aortic regurgitant by commencing after the second sound, and by continuing with its greatest intensity up to the commencement of the first sound. The mitral direct is also heard loudest at or a little within the apex, the aortic more to the right. The former may be associated with a mitral systolic, but is quite as often alone. As to the pathological import of this murmur, Flint's experience is, that it occurs especially in cases of great contraction of the mitral orifice forming the buttonhole slit. It may, however, be produced by mere roughening of the surface of the valves without contraction, or even without any lesion at all, if there be at the same time aortic regurgitation. Flint believes that the rapid reflux of blood into the ventricle floats up the mitral curtains, which are then thrown into vibration by the current driven in by the contraction of the auricles. He approves of Gairdner's proposal to designate the murmur 'auricular systolic.'

LEUDET.—*On Aortitis terminated by Suppuration, and its Influence in the production of Purulent Infection.* Arch. Génér., March, 1861, p. 575. Brit. and For. Med.-Ch. Rev., Jan. 1862.

Leudet, from an examination of his own and others' cases, arrives at the following conclusions. Aortitis affecting the external cellular and middle coats gives rise in some rare cases to the formation of an abscess in the same part. This abscess does not determine the alteration of the internal membrane, the coagulation of the blood, or pseudo-membranous deposit on the inner surface. It is generally consecutive to intense inflammation of the heart or artery, issuing in disorganisation of the affected parts. When the aortic abscess communicates with the interior of the vessel pyæmia is the result.

GEIGEL.—*Case of Rupture of the Aorta.* Würzb. Med. Ztschr. ii, 2, 1861. Schmidt's Jahrb., vol. 113, p. 160.

The patient was a boy, æt. 14, healthy up to the date of his death, which occurred during the night after half-an-hour's suffering with abdominal pain and collapse. The rupture occurred close to the origin of the left subclavian. The outer coat was separated from the middle down to within an inch of the bifurcation by effused blood. The heart was hyperthropic, but sound, the aorta very narrow, and thin-walled, but free from atheroma.

Bantock, G. G.—Edin. Med. J., Aug. 1862.

Records a case of abdominal aneurism where the only symptoms were severe lumbar pain attended with nausea. Death occurred suddenly, and on post-mortem examination, an aneurism was found at the upper part of the abdominal aorta, which had eroded the bodies of the last dorsal, and two upper lumbar, vertebræ. Between two and three pounds of blood were effused into the abdominal cavity.

Pigeolet and Max.—J. de Brux., xxxiv, Jan. 1862. Schmidt's Jahrb., vol. 115, p. 302.

Record a case of thickening, redness, and ulceration of the coats of the aorta just above the sigmoid valves. The same alterations were found also lower down.

Beau.—*On Tobacco as a Cause of Angina Pectoris.* J. de Med. et de Chir. pratique, July, 1862. Edin. Med. J., Aug., 1862.

Bernard has proved that nicotine produces its principal effects upon the nerves, upon the muscles, but especially on the vascular system. In a moderately strong dose, this substance produces in the muscles convulsive movements, which may terminate in a permanently tetanic condition; whilst, if the dose is small, the first effects are produced upon the heart and lungs, giving rise to acceleration of the respiration, and increased energy of the pulsations. A clear proof that the nerves are the organs of transmission of this complicated action is, that, after the division of the pneumogastric, none of these phenomena are manifested. It is important to add, that the action upon the muscular system is produced exclusively when the nicotine is pure, and in sufficient quantity; whilst, if it is diluted or mixed, it acts specially upon the respiratory apparatus and the heart. Beau, of course, only regards tobacco as *one* of the causes of angina, and believes that for the production of this affection among smokers several conditions are required, as (1) the excessive use of tobacco; (2) a special susceptibility of the individual; (3) debilitating influences, such as anxiety, fatigue, weak digestion, which, preventing the organism from getting rid of the tobacco absorbed, allow it to accumulate to such a degree, that nicotine is present in sufficient quantity to produce its poisonous influence upon the heart. Beau relates eight cases in evidence, two fatal. He considers angina pectoris not as a mere neuralgia of the heart, but as essentially associated with an intense and intermitting asystolia, or defective contraction of the ventricles. For this he considers digitalis to be the best remedy, which, according to him, is not a sedative of the heart, but a strengthener and excitant. It acts very favourably in cases of dilated hypertrophy, with enfeebled muscular tissue and consecutive venous engorgement.

Johnson, G.—*Clinical Lecture on Cases of Thoracic Aneurism.* Med. T. and Gaz., March 15th.

After commenting on the histories of two cases, Johnson proceeds to detail one in which the patient, who died at the age of sixty-nine, had unequivocal symptoms of aortic aneurism for fifteen years. In February, 1833, the man was bled from the arm to twelve ounces, and this was repeated every four days for nine months; then ten ounces were taken every five days. Altogether he was bled about one hundred and sixty-seven times. He looked pale in 1840, but had good general health; was a labourer. Death did not occur from rupture of the aneurism, but from syncope.

Chuckerbutty, S. G., M.D.—Brit. Med. J., July 19th, 26th.

Records three cases of aneurism, in which the administration of pot. iod. appeared to have been useful in promoting the solidification of the aneurismal sac. M. Bouillaud seems to have come to the same conclusion. *v.* Year-book for 1861, p. 191.

Sibson, F., M.D.—*On Aneurisms of the Arch of the Aorta.* Lancet, Aug. 9th.

Sibson divides these into four groups,—those at and near the sinuses of Valsalva, those of the ascending, transverse, and descending portions of the arch. The first class rarely give much discomfort, so that many drop down dead suddenly (twenty-six out of fifty-eight), being at the time apparently in perfect health. When the rupture takes place into the pulmonary artery, the vena cava, or right auricle, or the other cavities of the heart, great distress is excited. If this spontaneous varicose aneurism takes place between the aorta and vena cava, the head, face, and upper extremities rapidly swell, becoming purple and œdematous; while the lower part of the frame remains of the natural size. When it takes place between the sac and the pulmonary artery, oppression, distress, pallor, and speedy or even sudden death ensue. Aneurisms of the ascending part present at or below the second right intercostal space. Aneurisms of the transverse aorta, present behind or at the side of the manubrium, being held high up by the great vessels. If the valves of the heart are healthy, there will be in the two last groups a double aneurismal impulse, as well as sound, with an intermediate part of the chest-surface occupied by lung, where the heart-sounds are feeble, and where breath-sounds are heard. The descending part of the aorta, when aneurismatic causes absorption of the bodies of the vertebræ, a gnawing permanent local pain in the back, owing to pressure upon the sympathetic nerves, and in the later stages intense paroxysmal lancinating pains in the course of the intercostal nerves. Absence of breathing and immobility (*sic*) to use the left upper lobe, owing to pressure on the left bronchus, is another frequent important feature in such cases.

Möller, J. and Rauch, C.—*On the Influence of Lactic Acid upon the Endocardium, and in the Production of Rheumatism.* Virchow's Arch., vol. xx, p. 211.

Reyher, G.—*On the Production of Endocarditis by Injection of Lactic Acid into the Peritoneal Cavity of Animals.* Virch. Archiv, vol. xxi, p. 85. Brit. and For. Med.-Chir. Rev., Jan. 1862.

Rauch confirms from his own experiments the statements made by Richardson, except that he does not regard the thickened and swollen granular condition of the valve as the result of exudation. Möller looks upon the swelling and redness found at the edges of the valves as a post-mortem phenomenon, and says they do not occur in animals examined directly after death. Reyher examined, immediately after death, the hearts of thirty-two apparently healthy dogs, who had no lactic acid injection, and found in all changes identical with those believed to be produced by the acid. He thinks, therefore, that there is no proof that endocarditis arises from an accumulation of lactic acid in the blood.

Inman.—Med. T. and Gaz., March 1st.

Records a case of abscess at the base of heart, communicating with the right ventricle. The abscess was extensive, and appeared to be of some date. The pulmonary arteries were filled with a firm white coagulum. The heart was of normal size, and externally seemed healthy. The lungs contained a great deal of diffused or infiltrated pus. The other viscera were healthy. The patient had suffered with rigors daily for seven or eight months, and appeared seriously ill, with a sallow jaundiced complexion. There was no trace of pyæmic changes.

Hirtz.—*Clinical Study of the Effects of Digitalis Purpurea.* Bullet. de Thérap., Feb. 28th, March 15th.

After some important remarks on the necessity for a closer study of therapeutics, and more attention to the proper mode of preparing the various drugs, Hirtz proceeds to consider (1) The physiological action of digitalis, but does not add any new facts to those with which we were previously acquainted. He cites the experiments of Traube, Stannius, Bowley, and Baehr, but can come to no other conclusion than that the drug exerts a paralysing action upon the heart, which first manifests itself by a slowing taking place coincidently with nervous depression. The temperature is at first increased, then depressed. Diuresis is very uncertain, but gastric irritation is a very constant effect. (2) The action of digitalis in certain diseases, especially in the acute, inflammatory, and febrile. He refers, first, to the observations made in Germany, and notices especially those contained in Kulp's thesis. One case of his own is given in detail, in which venesection and ant. pot. tart. produced in two days no amendment, the pulse remaining at 118, and the temperature at 104°·6. Digitalis was then given, and in two days the pulse had fallen to 82, and the temperature to 98°·6. The digitalis was now left off, but the next day the pulse was 53, and temperature 97°·3. Crepitatio redux was now heard, the case being one of pneumonia of the right upper lobe. The pulse and temperature now began to rise. On the eleventh day (three days later) the patient was convalescent. Hirtz has employed the same treatment in acute phthisis, acute bronchitis, pleurisy, acute rheumatism, and with similar results. Diuresis has rarely occurred. Venesection may be employed with the digitalis. No ill effects have ever ensued. The amount of the drug taken has varied from seven to thirty-seven grains.

Hepp.—*Pharmaceutical Hints on Digitalis.* Bull. Gén. de Thérap., March 15th, 1862.

Hepp considers it of great importance to follow the directions given by

Withering. These are, that the leaves should only be collected from second year's plants at the time when the first flowers make their appearance, the parenchyma only of the leaf is to be used. They are to be dried before a stove till they are friable, and kept then in close tin boxes. Not more than a year's supply should be kept.

WINOGRADOFF.—*On the Influence of Digitaline of the Metamorphosis of Tissue, and the Medium Pressure of the Blood in the Arteries.* Virchow's Archiv, xxii, 5, 6. Schmidt's Jahrb., vol. 114, p. 16.

The first question which Winogradoff proposed to resolve by his inquiries was, what influence has digitaline, which certainly diminishes the heart's movements, on the strength of the pressure of blood in the arteries? The result obtained was negative, no change being produced. From this he deduces the important conclusion that digitaline may be given without risk in morbid conditions attended with diminished pressure of blood in the arteries, as in diseases of the heart, with insufficient compensation. The second question is, whether the slowing of the heart's action is the result of increased regulating influence in the musculo-motor nerves of the heart, produced by stimulation of the medulla oblongata and nervus vagi? The experiments made by comparing the effect of injection of digitaline into the blood, with that of stimulating the vagus by a weak galvanic current, show that the two do not act alike, the latter not only slowing the heart's motion, but diminishing the blood-pressure in the arteries, which digitaline does not. The drug therefore does not produce its effect by excitement of the vagus or medulla oblongata. The last question respects the influence of digitaline on tissue metamorphosis. Winogradoff observes that the system after a time accommodates itself to digitalis, so that the dose can be raised gradually considerably higher than it was at the commencement. This accommodating power is evidenced not only by the greater tolerance of the stomach, but by the pulse and temperature remaining unaffected. No diuretic effect is produced, but, on the contrary, the urea, the chlorides, the inorganic salts, are all diminished. The phosphoric and sulphuric acids are, however, increased.

TRAUBE.—*On the Theory of the Action of Digitalis.* Med. Centr. Ztg., xxx, 94, 1861. Schmidt's Jahrb., vol. 114, p. 182.

Traube, finding that slowing of the heart's action often coincided with increased pressure in the arteries, and increased frequency again with diminished arterial pressure, conceived the idea, which subsequent experiment has confirmed, that digitalis acts on both the regulating and motor nerves of the heart, and that the degree of pressure in the aortic system is the conjoint result of these two factors. The first action of digitalis on each is to excite, and the subsequent to paralyse. If, then, the motor are more stimulated than the regulating nerves, the arterial pressure will be increased, and so it will be if the regulating are enfeebled while the motor are excited. On the contrary, the arterial pressure diminishes when the regulating nerves are more strongly excited than the motor. In a dog poisoned with curare, artificial respiration was kept up, the vagi divided, and the arterial pressure noted after injection of ʒiij of very strong digitalis infusion into the jugular vein. The cymographion showed, before the injection, a pressure of 124 millimètres, which rose in four minutes to 260, and declined in ten minutes to 176. Repetition of the injection caused immediate fall of the column, and speedy arrest of the heart's action.

HOLM, W.—*The Physiological Action of Helleborus viridis.* Wurzb. Med. Ztschr. ii, 1861. Schmidt's Jahrb., vol. 114, p. 183.

Death results from paralysis of the heart apparently from a direct action upon its muscular tissue. The motor nerves lose their power, and subsequently the muscles their contractility. The brain does not seem affected, nor the spinal cord.

WUNDERLICH.—*On Digitalis in Typhoid Fever.* Med. T. & Gaz., July 12th.

The quantity of this drug required for producing decisive effects is smaller in typhoid patients than in those suffering from pneumonia and other acute diseases, and varies from thirty to sixty grains to be taken in three to five days. The chief diminution of the pulse takes place on the fourth or fifth day of administration, when the rate is slowed by from thirty to sixty beats. This occurs simultaneously with a marked decrease of temperature, and the pulse after some time even falls below its ordinary velocity. This effect is much more permanent than that upon the temperature, and often lasts for several weeks in succession. The medication described is free from danger, provided that it be at once discontinued if the velocity of the pulse decreases rapidly. It merely abates the fever, and has no direct influence on the changes in the intestinal canal. It should therefore only be used when the febrile symptoms run high, the pulse being at 120, and the evening temperature at 108° F. with slight morning remissions.

DYBKOWSKY, W.; PELIKAN, EUG.—*On the Action of various Heart-Poisons.* Ztschr. f. Wissensch. Zool., xi, p. 279, 1862. Schmidt's Jahrb. vol. 115, p. 170.

The authors experimented with frogs chiefly, and administered the poisons by the mouth or by subcutaneous injection, either alone, or after the vagi had been divided and the medulla oblongata destroyed, or whilst an interrupted current was transmitted through the vagi. The poisons used were the upas antiar, and the alcoholic extract of the tanghinia venenifera, extract of veratrum viride, and digitalin. The relative potency of these poisons in the order just given is as 4 : 3 : 2 : 1. The following are the results they obtain:—(1) The heart ceases its action, although the frogs are still quite excitable, and can even hop about voluntarily for some time. (2) All these poisons exert their *principal* paralysing action upon the heart in whatever way they are introduced into the system, while sulphocyanide of potassium never does so. (3) The ventricle of the heart always remains strongly contracted, and is almost quite empty and pale, while the auricles are distended and full of blood. Sulphocyanide of potassium, on the contrary, causes dilatation of the ventricles. (4) The heart's contractions are at first sometimes accelerated, sometimes retarded, so that at least in many cases it is probable that the cardiac nerves are excited previous to the paralysis. (5) The paralysis of the ventricle does not occur gradually, but suddenly; the contractions falling from forty-five to thirty-five in three to five minutes after the poisoning, to twenty-five in eight minutes, and to twenty and fifteen in nine minutes, and then suddenly ceasing. Before the cessation the action becomes peristaltic. The auricles, on the contrary, gradually diminish their action to the last, continuing to contract some minutes longer than the ventricles. (6) The rhythm of the heart was not altered during the first few minutes after poisoning, subsequently the movement became either peristaltic, the upper part of the ventricle contracting before the lower, or much slower. (7) The above-mentioned poisons do not act on the heart through the brain or spinal cord. Their action is not delayed or altered by destruction of the medulla oblongata, or division of the vagi, or by the previous administration of woorara. Galvanisation of the vagi also produces its usual effects even while the system is under the influence of the poison. (8) Galvanic excitation of the sympathetic when the heart was quite paralysed did not re-excite its action, except in some instances of poisoning by digitalis. (9) The motor nerves of the muscles are also in a less degree affected by these poisons, as a limb which was prevented from receiving the poisoned blood by a ligature preserved its excitability eight to sixteen hours longer than one not so protected.

RICHTER, R.—*On the Action of Curare in Strychnine-Poisoning.* Nachricht v. d. Ges. d. Wiss. zu Gött., 1862. Schmidt's Jahrb., vol. 115, p. 171.

Richter finds that animals poisoned by strychnine and then with curare recover, if artificial respiration is maintained long enough to allow of the excretion of the poison. The time necessary for this varies, according to the amount of the poisonous dose, from one to thirteen hours. The rationale of the proceeding is that strychnine induces a tetanic state of the respiratory muscles, in consequence of which the heart's action is stopped as in apnœa. Curare has the opposite effect of paralysing the respiratory muscles, which equally induces apnœa, but leaves the practicability of performing artificial respiration, during which the heart's action goes on.

M‘BRIDE, ALEX.—*Cantharides as a Therapeutical Agent.* Amer. Med. T., Aug. 16th.

M‘Bride represents this drug as "an agent the most powerful to rekindle the waning spark of vitality" in various asthenic affections, as typhoid pneumonia, animal-poisoning, gangrenous erysipelas, low stages of typhoid fever, cholera. As a general indication for its use, he states, that "when in atonic, asthenic, or adynamic disease it is a desideratum, from whatever cause, to produce general or local capillary tonicity, the internal use of cantharides will be indicated, and in quantity proportional to the urgency of the demand." The dose he has given has been usually ʒss to ʒiss of the tincture, alone or in combination with other remedies. He believes that cantharides act primarily upon the capillaries, giving them tone and diminishing their calibre, whereby congestion is relieved and absorption promoted; and that its action upon the general constituents of the organism throws a large amount of nitrogenised effete matter into the circulation, which the kidneys elaborate into dense urine; and he has noticed the fact that as long as the urine is dense there is no strangury, but when it grows pale the quantity becomes less, and if the medicine is continued strangury will follow.

On Veratrum viride. Lancet, Jan. 4th.

The special virtue of this remedy in controlling the action of the heart without depressing the vital powers, makes it very valuable in all inflammatory diseases. Especially in pneumonia its efficacy seems to be well proved: it relieves the dyspnœa, promotes expectoration, and effects a rapid recovery. In acute rheumatism, and acute mania, it is said also to be highly serviceable, and equally in traumatic and puerperal fever. In full doses it produces vomiting and prostration, which are relieved by opiates and stimulants. From five to eight minims may be given to an adult every two hours, and when the specific effect is produced the dose may be diminished.

CHAMBERS, T. K.—*On Anœmia and Blood-letting.* Med. T. & Gaz. Jan. 11th.

Chambers recommends mist. ferri. co. in preference to the more elegant preparations, and besides warm baths containing H. Cl., with gradually-increasing supplies of nitrogenous food, and pil. aloes c. myrrhâ as an aperient. He points to the rapid development of red globules which takes place under this treatment, as a proof that venesection, judiciously employed, inflicts no serious loss on a patient's system.

M'NAMARA, R.—*Observations on Epistaxis.* Dublin Q. J. of Med. Sc., Feb. 1862.

M'Namara considers that all cases of this affection belong to one of two great classes, the *sthenic* or the *asthenic*. If it belong to the former, it is not to be arrested, at least hastily, but rather to be encouraged awhile, as rendering other evacuations unnecessary. He illustrates by cases the influence of various causes in giving rise to the affection, as the invasion of erysipelas, anger, grief, fatty heart, enlarged spleen, renal disease, scurvy, disturbed cerebral circulation. The authority of Dr. Ledwich is cited in favour of the view that the channels in the turbinated bones lodge venous sinuses, from which the profuse hæmorrhage proceeds which is so frequently met with. In sthenic epistaxis sulph. magn. with acid s. dil. and tr. digitalis is recommended. In asthenic, pulv. ergotæ gr. v-vj every ten or fifteen minutes, or where there are indications of purpura, ℥j-℥iss of ol. terebinth. in a tumbler of brandy or whisky punch. The erect position of the head, dry cupping, and vesication of the back of the neck, are all valuable means. It is only in extreme cases that plugging of the nares is advised; full details are given of the best methods.

WINTRICH.—*On Sudden Paralysis of the Heart.* Med. T. & Gaz., Feb. 15th.

Wintrich has recently observed that in certain spasmodic fits, in which sudden expiratory efforts are made, the glottis being at the same time closed, and also in violent paroxysms of cough, as in pertussis, &c., the heart is sometimes brought to an entire standstill, as neither of the sounds of the heart are audible and the pulse cannot be felt. He believes this condition to be due to the increase of expiratory pressure, which is brought to bear on the capillary vessels of the lungs, and the right ventricle, and which cannot remain without effect on the large vessels opening into the right atrium and upon the heart. If this condition is protracted death results, of which Wintrich gives some examples.

Wedl, C.—*On the Mode of Origin of Phlebolithes.* Wien, Ztschr. xvii, p. 145, 1861. Schmidt's Jahrb., vol. 113, p. 24.

After describing the structure of these formations in detail, Wedl concludes that the great development of connective tissue, the presence of elastic fibres in the concentric cortical layers not yet ossified, the morbid condition of the venous wall, the occasionally demonstrable organic connection of the tail with the side of the vein, are so many facts which are not favourable to the modern view that phlebolithes originate in a fibrinous coagulum.

Pokrowsky.—*Researches respecting the Action of Preparations of Iron.* Virchow's Archiv, xxii, 5, 6, 1861. Schmidt's Jahrb., vol. 114, p. 18.

Pokrowsky made numerous very thorough examinations of patients who were taking iron, and arrived at the following conclusions:—(1) The temperature of the body rises, in some cases very soon, in others much more slowly. (2) This rise occurs not only when the temperature previously was normal, but when it has been morbidly depressed. (3) An increase of the dose produces a further elevation, when it had ceased. (4) Several days after the use of iron the pulse rises, but not in all cases. (5) The daily amount of urea excreted in the urine is very soon increased. (6) The weight of the body is augmented. (7) All preparations of iron act alike. (8) Dropsical exudations in the subcutaneous tissue were absorbed under the use of iron, but returned when the remedy was left off. This occurred even in patients affected with mitral insufficiency. (9) Increased cardiac impulse and dyspnœa from organic heart-disease ceased under the use of iron, when digitalis had previously failed. (10) In cases where the temperature was previously normal, its elevation continued a long time after leaving off the iron, but when this was not the case it sank as rapidly as it had increased, at least in those instances where the morbid condition which gave rise to the low temperature had not been removed by the iron. Pokrowsky regards iron as having a nutrient influence, and believes that this is especially exerted in the capillary vessels and minute arteries.

Kirkes, W. S.—*On Arterial Murmurs in Incipient Phthisis.* Med. T. and Gaz., May 17th.

Kirkes finds these murmurs to exist quite independent of cardiac ones, and to be situated nearly if not quite as often on the right as on the left side, and even more frequently close under the clavicle than at the second and third costal cartilages. He finds the intensity of the murmur to vary greatly, and that within a very short time. It is increased by the heart acting more vigorously and at the end of a full inspiration. He does not believe the murmur to be anæmic, but to result from pressure exerted by a tuberculised lung on the pulmonary, subclavian, or some other large artery. The chief value of the murmur depends on the circumstance that it attends *the earliest stage* of phthisis, that, namely, of tubercular deposition.

Druitt, R.—Med. T. & Gaz., July 19th.

Records a case in which a venous clot, twenty inches long, was found in the right auricle and ventricle. It was tubular, firm, pale, and lay coiled up and partly surrounded with soft fresh fibrine. The right and left pulmonary artery and their leading branches contained also soft, loose, fibrinous plugs. The patient, a male, æt. forty-two, had had symptoms of subacute rheumatism, with some œdema latterly of both hands and feet. The usual obstruction symptoms supervened suddenly.

Ranking, W. H.—Brit. Med. J., Oct. 4th.

Records a case of crural phlebitis (thrombosis) unconnected with pregnancy or the parturient state. He recommends free leeching, if there be local pain, and subsequently friction with mercurial liniment, the inclined position, keeping the limb warm, and the administration of ammonia and iron.

Trousseau.—J. de Med. & de Chir.-Pratiq., vol. xxxiii, p. 106.

Draws attention to what he calls pseudo-chlorosis, *i.e.*, a state of anæmia depending on the tuberculous or syphilitic diathesis. It is useless to administer iron in these cases, especially in the first it is decidedly injurious.

Goodfellow, S. J.—Med.-Chir. Trans, vol. xlv.

Records two cases of extensive arterial obstruction from separated cardiac vegetations followed by gangrene of the lower extremities and death. Both were females, one rather robust, æt. 30, the other spare and feeble, æt. 17. In the first the mitral valve was covered with very large vegetations, and the substance of the organ beneath and around the seat of the vegetations was infiltrated with a yellowish puriform matter, which in some parts was exceedingly soft. In other parts of the wall of the ventricle similar friable deposits were observed. The arteries and veins of the lower limbs were obstructed by firm coagula, the arteries as far down as the division of the popliteal. At some parts the arteries were imbedded in dense fibrous tissue, and at others curdy puriform matter was deposited between the coats, in one spot forming a small abscess. There were extensive fibrinous deposits in the spleen and kidneys. In the second case the pathological state was very similar, but there was sanguineous extravasation into the cavity of the arachnoid and plugging of some branches of the middle cerebral artery. Goodfellow remarks, that where there was partial arterial obstruction the inflammation was of the adhesive character, and the exuded matter was susceptible of some organisation;

where, however, the plugging was more complete the inflammation was of a more intense character, and the exudation was or soon became puriform.

Bäumler, Ch.—Deutsche Klinik, March 22nd, April 5th.

Relates a case of complete obstruction of the vena cava ascendens and the branches of the portal vein in a female. The disease seems to have commenced fifteen years before her death, about the age of thirty. There was at first diarrhœa, occasionally bloody, subsequently jaundice, and dropsical enlargement of the lower half of the body. The abdominal veins were greatly enlarged, and conveyed the blood upwards from the crural. The spleen was greatly hypertrophied. Shortly before death a very large amount of blood was vomited. The liver was found cirrhotic and atrophied, the spleen very large, the stomach healthy, the inferior cava from its commencement upwards, as far as the entrance of the renal veins, converted into a solid, round, firm cord. The liver was traversed by a network of almost tendinous fibres, which were evidently obliterated vessels, and contained two fibrous tumours of about the size of a hazel-nut.

Kottmier.—*Fibrous New Formation in the Heart, a true Cardiac Polypus.* Virchow's Archiv, vol. xxiii, p. 434.

This growth sprang by a narrow stalk from the septum of the left auricle, near the foramen ovale, and hung down a little way into the left ventricle. The patient was a male, æt. 47, who suffered with fixed pain under the middle of the sternum, severe nocturnal oppression and dyspnœa, and violent action of the heart. The radial pulse was extremely small.

Demme, H.—*On Extra-cranial Blood-cysts communicating with the Sinuses of the Dura Mater.* Virchow's Archiv, vol. xxiii, p. 48.

Demme states that such cysts may be produced by the Pacchionian glands causing absorption, so that a communication is formed between the sinus and extra-cranial blood-vessels. He gives a case of this. In another group such cysts are produced by true varices of the external veins of the head, which communicate directly with the corresponding sinus through the channel of the vessel concerned. A third group is formed by cases in which the sinuses themselves become dilated, cause absorption and perforation of the cranial wall, or bulge out through a pre-existing opening. He relates one case in which this seems to have occurred congenitally.

Petters.—Prag. Vjhrschr., lxxii, 1861. Schmidt's Jahrb., vol. 115, p. 183.

Records a case in which there occurred remarkable dilatation of the lymphatic glands of the right groin, small and large intestine. The glands were converted into cyst-like cavities tensely filled with a yellow fluid, and the afferent and efferent vessels were also much dilated. The cause of this dilatation of the lymphatics is supposed by Petters to be the obstruction to the circulation resulting from the diseased state of the heart, both mitral and tricuspid orifices being contracted, the former especially. The liver was cirrhotic, and there had been considerable ascites. It does not appear that the absorbents in other parts of the body were affected.

RESPIRATORY SYSTEM.

Report of the Committee appointed by the Royal Med.-Chirurg. Soc. to investigate the subject of suspended Animation.—Med.-Chir. Trans., vol. xlv.

In the case of dogs it was found that the average duration of the respiratory movements after the animal had been deprived of air was four minutes five seconds; the extremes being three minutes thirty seconds, and four minutes forty seconds. The average duration of the heart's action is seven minutes eleven seconds, the extremes being six minutes forty seconds and seven minutes and forty-five seconds. On an average the heart's action continues for three minutes fifteen seconds after the cessation of respiratory efforts, the extremes being two and four minutes.—As to the question of the period after the simple deprivation of air at which recovery is possible under natural circumstances, without the aid of any artificial means of resuscitation,—the Committee conclude (1) that a state of apnœa being maintained for a given time, the later the respiratory efforts are continued, *i.e.* the shorter the interval between the last respiratory effort and the admission of air, the greater the chance of recovery; (2) that air being admitted at a given time after the last respiratory effort, the earlier the respiratory efforts cease the greater the chance of recovery; for the earlier they cease, the shorter the interval between the establishment of, and the release from, the state of apnœa. Of the relation of recovery to the duration of the heart's action, it is stated, that under no circumstances did recovery ever occur when the heart's action, as indicated by a needle inserted into the ventricles, had stopped. In dogs the doubtful interval of recovery and death lies between three minutes fifty seconds and four minutes ten seconds. The force of the inspiratory efforts are so considerable, that when a guinea-pig's nose was immersed in mercury and held there till inspiration had ceased, the lungs were found full of globules of the metal, and when a terrier was similarly treated in liquid plaster-of-Paris, this substance was found after death throughout the bronchial tubes. In investigating the question, how long an animal can be submerged and yet recover, without the aid of artificial means, it was found that one minute and a-half's immersion sufficed to destroy life, although some respiratory efforts were made, and the heart continued to act from four and a-half to five minutes forty seconds after removal from the water. By further experiments it was shown, that the earlier death in immersion, compared with simple deprivation of air, did not depend upon exhausting struggles, nor on the depressing effect of cold, but chiefly on the entrance of water into the lungs. In examining the lungs of animals deprived of air merely by plugging the trachea, they were found simply congested; but in the animals drowned, not only was the congestion much more intense, accompanied with ecchymosed points on the surface, and in the substance of the lungs, but the air-tubes were completely choked up with a sanious foam, consisting of blood, water, and mucus, churned up with the air in the lungs by the respiratory efforts of the animal. The lung-substance too appeared to be saturated and sodden with water, which, stained slightly with blood, poured out at any point where a section was made. The lung thus sodden was heavy (though it floated), doughy, pitted on pressure, and was incapable of collapsing. Dogs submerged after the windpipe had been plugged, recovered after four minutes submersion, and when chloroformed, they recovered after submersion for two minutes' fifteen seconds. Various means of resuscitation, venesection, galvanism, cold splashing, the actual cautery, artificial respiration, puncture of diaphragm, hot douche alternated with cold, were tried, but though some were occasionally of manifest advantage, no one was of such unequivocal efficacy as to warrant its being specially recommended. Of the different methods practised to produce artificial respiration, Dr. Silvester's was found the most efficacious, producing in several instances a regular exchange of air, exceeding thirty cubic inches, and in one amounting to fifty. When the tongue was drawn forward and the larynx pressed backward against the spinal column, it was found perfectly practicable to inflate the lungs through the mouth of the subject.

CZERMAK, J.—*On the Local Treatment by Means of the Laryngoscope.* Med. T. and Gaz., May 3rd.

Czermak proposes to introduce a thin tube, curved at a right angle, and so placed that its shorter branch, furnished with a capillary orifice, may be entirely visible in the mirror of the laryngoscope. "After this has been done, the image of that part of the larynx which it is intended to reach is looked at with the image of the short branch of the tube, as if it were the real tube, and the extremity of the real tube will then naturally direct itself exactly towards the real object of this image of the part of the larynx. The current of air, charged with the powder or liquid jet, when suddenly driven into the indicated direction, must necessarily reach the intended spot of the larynx. During the operation the respiratory movements must not be too hurried."

MACKENZIE, M., M.B.—*Phlebectasis Laryngea.* Lancet, July 5th.

Mackenzie has observed, by means of the laryngoscope, distended veins on the true or false vocal cords, or in other parts of the larynx, and considers that they may give rise to hoarseness, cough, or even œdema glottidis. He advocates local astringent applications, as ʒss of tannin ad ℥iij of water, and tinc. capsici, ♏xv ad aq. ℥j.

LEWIN, G.—*Contributions to Laryngoscopy.* Deutsche Klinik, 1862, Nos. 18, 19, 20, 21, 23, 25.

Lewin finds mention, in the works of various authors, of ten laryngeal tumours, of which six were polypoid, two cancroid, two ossific. He then details the proceeding he employs for the removal of laryngeal polypi. The patient's head is to be fixed by a contrivance similar to that used by photographers. The tongue is to be held protruded by the patient grasping the end of it with a cloth. The operator then introduces a curved forceps or scissors, which he brings down close to the upper vocal cords, but without touching them. The patient is then directed to inspire deeply, and to hold his breath in inspiration, while the operator instantly grasps the polypus, and detaches as much of it as possible. Several *séances* are generally requisite. In some cases he employs caustics, of which he prefers nitrate of silver and chromic acid. The former he applies, by means of a bent silver wire, with a small knob at the end, which is dipped into the fused material, and thereby coated with it. Chromic acid must be used more cautiously; Lewin has not ventured to apply it to the deeper seated parts of the larynx; small fragments of the size of a pin's-head are carried by forceps to the locality desired. Numerous cases are related of successful cauterization and extirpation, some even in young children. With respect to the seat of the tumours, Lewin points out that if it be attached in front of the vocal cords, *i. e.*, above the glottis, the inspiration will be more or less audible, according to the size of the growth, and the expiration which forces it out of the glottis more or less free; while if it be attached below the vocal cords, the expiratory current drives the tumour into the glottis, creates friction, and so becomes of whistling or sawing character.

Gibb, G. D.—Lancet, Sept. 27th.

Records a case of acute inflammation of the vocal cords, diagnosed and treated by the aid of the laryngoscope. The mucous membrane covering the cord was slightly tumefied, and of a bright crimson-red colour, while other parts were of a light pink. There was complete aphonia. Nitrate of silver solution (℈ij ad ℥j) was applied directly to the affected parts. The patient was seen quite recovered eleven days later, and reported that in one hour and a-half from the application of the caustic, her voice returned in full power and compass without any pain or effort. The larynx was now seen to be normal.

Chambers, T. K.—*Clinical Lecture on Acute Laryngitis.* Brit. Med. J., Feb. 15th.

Chambers says that he has never found any advantage in this disease from the use of antimony and mercury, and that he has ceased to employ them. Their deleterious actions are stronger in inverse ratio to the amount of tissue inflamed; and they are apt to cause dangerous depression in patients "who have already sustained the shock of being half stifled." He counsels at first mild restorative measures, local leeching, and inhalation of steam; in special favourable cases, venesection. If these are not speedily of avail, tracheotomy is not to be delayed one minute. Special care must be taken to support the patient well with nutriment by mouth, or rectum.

Anstie.—*Case of Diphtheric Croup.* Med. T. and Gaz., March 29th.

In Anstie's case tracheotomy was performed with "enormous relief" to the extreme dyspnœa, and the child, æt. seven, made a good recovery in from two to three weeks. The after treatment consisted at first of wine, beef-tea, and quinine; afterwards, about the third day from the operation, when symptoms of pulmonary œdema set in urgently, the quinine was changed for carb. of ammon. gr. *j o. horâ et dimid.*, and the wine for brandy, of which twelve ounces were given daily for nine days, without the least intoxication. Diphtheria was very prevalent in the vicinity.

Zimmermann.—*On the Treatment of Diphtheric Angina and Croup.* Lond. Med. Rev., March. J. für Kinderkrankheiten.

Zimmermann applies externally to the enlarged glands of the neck a solution of iodine, twelve parts; pot. iodid., four parts; pot. bromidi, two parts in alcohol rectif., 125 parts; and water fifteen parts. Local blood-letting is premised. After the application the swelling rapidly subsides, and the diphtheric action in the throat ceases. At the same time he uses an iodine water internally, the Adelheidsquelle of Heilbroun.

HILLIER, T.—*Clinical Lecture on Diphtheria.* Med. T. and Gaz., April 26th.

Hillier contends that there is no essential difference between croup and diphtheria, and endeavours to invalidate the distinctions which have been laid down as diagnostic of the two affections. He maintains that diphtheria is epidemic croup, or that croup is sporadic diphtheria of the air-passages. Albumen may be present in the urine in croup, just as it is in diphtheria. He has used calomel in small frequently repeated doses in diphtheria, with success, three cases recovering out of four. In the fatal one the disease was so advanced that there was not time to get mercury into the system. Together with the calomel, Hillier gives beef-tea, milk, and eggs freely, and stimulants if they seem to be requisite. Guaiacum, with pot. chlor. and tr. cinch., he approves of. Caustics (H. Cl. he prefers) are to be applied to the surfaces adjacent to the exudation, not to those already affected. Tracheotomy or laryngotomy in adults is not to be omitted if other means fail.

BOWLES, R. L.—*Position in Accident and Disease.* Brit. Med. J., June 14th.

Bowles believes that stertor depends on the tongue falling back into the pharynx by gravitation during the existence of general paralysis, and preventing the easy access of air to the lungs. He recognises three varieties of stertor,—(1) palatine, when the current of air causes a vibration of the soft palate; (2) pharyngeal, when the air gives rise to a harsh, sharp, husky noise, by passing through the narrowed interval between the base of the tongue and the posterior wall of the pharynx; (3) nervous, which depends on air bubbling through mucus in the larger air-tubes. The second form is that which indicates the greatest amount of danger from impediments to the respiration, and this is most common in apoplexy and apoplectic symptoms arising from accident. In such cases the danger is greatly increased by the retardation of the returning venous current, which necessarily results from the imperfect respiration. The cerebral congestion thus occasioned increases the paralysis of the tongue, and the hæmorrhage, if it exists, and the patient thus gets gradually worse. A lateral position allowing the tongue to fall away from the back of the pharynx, allows free respiration to go on and diminishes the danger. Other dangers, such as the regurgitation of matters from the stomach into the larynx, are also avoided by the lateral position.

EMPIS, G. S.—*On Whistling Breathing, "Cornage" Broncho-tracheal.* L'Union, 1, 3, 5, 1862. Schmidt's Jahrb., vol. 114, p. 309.

This sound is audible at some distance, and is distinct, according to Empis, from sibilant rhonchus and other dry sounds. He believes it to be diagnostic of compression of the trachea or the bronchi. From nasal and palatine murmurs it is distinguished by closing the nares which arrests them; from laryngeal murmurs by the integrity of the voice; from tracheal sounds by the moist bubbling character of the latter. From pulmonary sounds, such as occur in asthma, senile catarrh, and emphysema, the diagnosis is more difficult, but the latter are expiratory, more sharp and prolonged, loudest over the lungs themselves, while the compression murmurs are inspiratory, dry and short, and loudest in front in the median line, and posteriorly between the scapulæ.

SANSOM, E.—*On Chloroform Administration.* Lond. Med. Rev., June, July, 1862.

Sansom has contrived a form of inhaler less cumbrous, less expensive, and allowing of more free dilution of the vapour than Snow's. He lays stress on the importance of very gradually increasing the proportion of chloroform vapour in the respired air. In operations about the mouth he employs Faure's method of inhaling the vapour by one nostril through a tube inserted into it.

FLINT, A., M.D.—*On the Distinctive Characters of the Pulmonary Signs obtained by Percussion and Auscultation.* Amer. Q. J. of the Med. Sc., April 1862.

Flint remarks that three elements—intensity, pitch, and quality—are distinguishable in the sounds which he proposes to study. After noticing the normal vesicular resonance and the normal vesicular murmur, he proceeds to the signs obtained by percussion, which he enumerates as *flatness* where there is no resonance, *dulness* where the resonance is diminished, *tympanitic resonance*, and *vesiculo-tympanitic resonance.* The three last are always of higher pitch than the normal resonance. The last is met with in pulmonary emphysema, and where lung is floating on effused fluid, or where part of a lung is solidified, and part remains in consequence unduly resonant. Attention to the pitch of sound will enable us to determine in cases of disparity of resonance of the pulmonary apices, whether the difference depends on lessening of the normal resonance in one, or its exaggeration in the other. Broncho-vesicular respiration is a kind intermediate between bronchial and vesicular, and approaches more or less to one or other. It has previously been known as rough or harsh. Cavernous respiration Flint distinguishes positively from bronchial; he defines it as an inspiratory sound, non-vesicular, blowing, low-pitched, with a still lower pitched expiratory. It is not very often met with, when present it is a sure indication of a cavity. But a cavity may often exist without any such sound. If it be very small, non-collapsing in expiration, remote from the surface, and if the tubes opening into it be obstructed, there will be no cavernous respiration. He next describes the bronchial whisper, whispering bronchophony, and the exaggerated bronchial whisper, which latter is of no small value in cases of a small tuberculous deposit. The distinctive character of the cavernous whisper is its being low-pitched, while the amphoric is characterised by a musical intonation. Crepitant râle is to be distinguished from subcrepitant by being a dry crackling sound, and heard only in inspiration, whereas the subcrepitant is moist and bubbling, however fine it may be, and is liable to be heard in expiration.

Hall, C. Radclyffe, M.D.—*On Pulse-Breath.* Proceed. of Med.-Chir. Soc., vol. iv, No. 1.

Hall applies this term to an audible pulsation communicated to the breath as it issues from the mouth; the sound resembles a gentle gushing of the breath synchronous with each pulsation of the heart. He has met with it in two cases of tubercular cavities, and in one of cardiac disease. It depends probably either on cardiac impulse communicated directly to the walls of a cavity, or indirectly through the blood-vessels to the air-cells and passages.

Marcet, W., M.D.—*On a Simple and Efficient Method of performing Artificial Respiration.* Proceed. of Med.-Chir. Soc., vol. iv, No. 1.

The apparatus employed consists of a bellows and a tube, the latter being secured in the larynx by the pressure of a small caoutchouc bag distended with air, which surrounds the opening of the tube, and is itself inflated by means of a smaller tube running parallel to the larger. For a more detailed description, *v.* original. It is made by Blaise and Whicker, St. James Street.

Inman, T.—*On Therapeutics—Croup.* Lond. Med. Rev., June, 1862.

Inman limits his treatment to moist warmth and opiates locally applied, nitrate of potash drink, and, if more decided measures are requisite, the most active medicine should be an ipecacuan emetic, which may be repeated once daily after there is certainty of the effusion of lymph, "to squeeze as much as possible the mucus from the lungs and the fibrine from the trachea." Steel, mixed on the instant, with spt. ammon. co., should be the medicine after the first day is passed, and the body should be assiduously rubbed with oil to promote circulation and cutaneous aëration of the blood. He thinks the disease as amenable to correct treatment as are intermittents and agues.

Poggiale.—*On the Pulverization of Fluids.* Bull. de l'Acad., Jan. 1862. Schmidt's Jahrb., vol. 115, p. 23.

Poggiale finds that liquids pulverized by Sales-Giron's method do penetrate into the air-passages, but not in such quantity or with such facility that they can be employed in the cure of bronchial diseases. The process of pulverization probably lowers the temperature of the liquid. It also alters the chemical composition at least of some waters; those containing sulphuretted hydrogen lose on an average sixty per cent. of their sulphur; those containing sulphuret of sodium are but little changed. The question as to the therapeutic effect does not appear to be settled.

Leared, A., M.D.—*On the Differential Stethometer.* Med. T. & Gaz., Aug. 2nd.

This instrument consists of two dials, the indices of which are moved by mechanism connected with tapes passing round both sides of the chest.

A difference in the amount of expansion during inspiration is thus clearly indicated.

Joset.—*On the Medical Properties of the Wild Thyme, and particularly of its Use in Spasmodic Cough.* Rev. de Thérap., Feb. 1862. Brit. and For. Med.-Ch. Rev., July.

Joset has observed an infusion of wild thyme, slightly sweetened and mixed with gum, to effect surprising improvement, and even cure in cases of pertussis, taken indifferently at all periods of the disease. The same was the case in stridulous sore-throat, and in convulsive and catarrhal coughs.

Thorburn, J., M.D.—*On Pulsatile Respiration.* Brit. Med. J., Sept. 20th.

Thorburn reports a case in which a sound synchronous with the cardiac systole, but ceasing when the breath was held, was heard along a line roughly corresponding to the anterior edge of the left lung. There was no evidence of disease of heart or lungs. Thorburn is inclined to attribute this sound to undue functional vascular impulse, on the one hand, and on the other, to undetectible pulmonary adhesions near the heart or great vessels.

Tobold.—*On the Local Treatment of the Respiratory Organs.* Deutsche Klinik, No. 22.

Tobold describes an apparatus constructed by Matthieu, which he uses, by which the medicated spray is injected into the open mouth, and so inhaled more thoroughly, as experiments with animals prove. He also praises the efficacy of turpentine inhalations with nitrate of silver cauterization in laryngeal polypi.

Roger, H.—*On Generalized Emphysema.* Revue de Thérap. Med.-Chir., April 1st, 1862.

This form depends on escape of air from the pulmonary cells during violent respiratory efforts, such as attend paroxysms of suffocative dyspnœa occurring in double pneumonia, or the convulsive paroxysms of pertussis. It is much more frequent in children than in adults; fifteen out of nineteen cases were under four years of age. Death occurred in fifteen cases out of nineteen, sometimes in a few hours or less. In treatment full doses of digitalis with opium must be employed to calm the violent respiratory efforts which give rise to the emphysema. Stimulant frictions may perhaps hasten the absorption of the effused air, or in urgent cases it may be removed by a capillary trocar.

Salter, H., M.D., F.R.S.—Lancet, July 26th.

Records a case of pulmonary hæmorrhage with formation of ramified coagula of blood in the bronchia. He attributes the hæmorrhage to leakage from an aneurism, the patient being an old man of sixty-eight. He remarks on the frequent difficulty of the diagnosis between hæmoptysis and hæmatemesis.

Wolff, Ph. H.—*Stuttering, and its Cure by a New Method.* Deutsche Klinik, Nos. 23, 24, 25.

After an historical sketch of former methods, Wolff discusses the nature of the disorder, which he views as a spasmodic nerve affection belonging to the same class as strabismus and clubfoot. He notices also its close resemblance to chorea, and considers both as depending on the preponderance of the excito-motor over the cerebral system. As different kinds of stuttering he considers, (1) that from defective action of the lungs; (2) of the larynx; (3) of the proper articulating organs, especially the tongue. The last form is the most frequent. He also admits Colombat's distinctions of labio-choreic or chronic, and gutturo-tetanic, or tonic stuttering. Wolff's treatment consists in the inhalation of (medicated) vapours of a proper temperature, in inunction, especially along the course of the nerves involved, in the strengthening of voluntary efforts, and in educating the patient to the proper way of pronouncing the several consonants. In obstinate cases he advises also division of the hypoglossal nerve in the neck.

Beau and Gondoni.—J. de Med. & de Chir. Pratiq., vol. xxxiii, p. 440.

Affirm the efficacy of sulphuret of potassium baths in asthma. They not only relieve in the attacks, but prevent their recurrence. About thirty baths should be taken, one every other day. Each bath should last twenty minutes, and be at the temperature of 86° F.

Kuborn and Villaret.—*On Pulmonary Melanosis.* Schmidt's Jahrb., vol. 116, p. 55.

Villaret's conclusions are the following:—(1) The black colouring of the lungs in almost all old men engaged in coal-works or in polishing copper, depends on the accumulation of carbon in these organs. (2) This carbon is derived from air loaded with it which the individuals habitually inhale. (3) The quantity of this colouring-matter is proportionate to the intensity and duration of the cause; in slight degrees the accumulation of carbon remains latent, while in considerable it causes the usual thoracic symptoms. (4) Finely-powdered carbon penetrates through the intestinal canal, (1) into the lacteal vessels, and deposits itself in the mesenteric glands; (2) into the mesenteric veins, and is carried with the current of the blood of the vena portæ through the liver and spleen, the vena cava inferior, right cavities of the heart and pulmonary artery to the lungs, where it is deposited in the parenchyma and in the bronchial glands. (5) The carbonaceous particles remain only a certain time in the liver and spleen, but in the mesenteric glands and lungs they continue permanently. It appears that when rabbits are made to inhale carbonaceous matter this is found visibly as far as the bifurcation of the trachea, and even to a slight amount in the bronchi, provided that the examination is made immediately after the conclusion of the experiment. If, however, the examination is not made for four days the respiratory passages are quite free from any black deposit, evidently in consequence of the expulsive action of the cilia. When carbon was given for some days to rabbits with their food it was found in the mesenteric glands, liver, spleen, venous blood, and interstices of the air-cells. According to Nat. Guillot, inhalation of carbon has a beneficial effect on pulmonary tuberculosis, as in four-fifths of all old persons who had melanotic lungs he found cretified tubercle with surrounding carbonaceous deposit; and when the tuberculous disorder recurred it was at parts of the lungs most remote from the carbon deposits. The course of the disease, according to Villaret, may be divided into two periods, the first, extending to the formation of caverns, may be very long, the second, terminating with death, is often very short, and never exceeds six months. Dyspnœa, resulting from imperfect hæmatosis, is the earliest sign, and is attended with anæmia, debility, emaciation, giddiness. The physical signs are at first obscure, afterwards more evident, as dulness at the apices, loss of elasticity, weak and imperfect breathing, bronchophony. Chronic bronchial catarrh with uncoloured mucous expectoration is extremely common in older persons. The occurrence constantly of black sputa is a certain sign that ulceration has commenced, and physical examination now discovers the presence of caverns. Dyspnœa and emaciation increase, the face becomes livid, suffocative paroxysms occur, and death takes place suddenly. Prophylaxis is evidently much more important than treatment. The workmen should not continue their employment above ten years, and should quit as soon as any dyspnœa is perceived.

MAURICE.—*On Melanidie of the Lungs observed in Colliers.* Gaz. Medic. Lond. Med. Rev., March.

Maurice states that the melanic appearance is solely produced by inhaling carbonaceous particles, and that the common black discoloration of the lungs proceeds from the same cause. In healthy persons no injurious consequences ensue for a long time, but in the tubercular subjects they appear much earlier and more rapidly. Abandonment of the occupation is essential.

TRAUBE.—*On Putrid Bronchitis.* Deutsche Klinik, 50, 52, 1861; 1—5, 1862. Schmidt's Jahrb., vol. 116, p. 306.

The sputa which occur in this disease are often observed also in bronchiëktasis and pulmonary gangrene, but are not necessarily present in either. They are copious, offensive, and consist of crumbling, greyish-yellow masses floating in tenacious muco-purulent liquid. At first they seem to form white plugs occupying the bronchi, and made up chiefly of pus globules and round heaps of detritus; subsequently the plugs assume a dirty-grey colour, and show particles of detritus mingled with large oil drops lying in a purulent mass; still later the detritus predominates, and short, fine, needle-like crystals are seen together with the oil drops; and, lastly, the detritus contains larger oil drops and long thick needles united in groups. The disease may occur in a diffuse, subacute, or in a more chronic and limited form. It may cause destruction of the lung tissue either by gangrene, or by suppuration inducing necrosis. The disease generally supervenes on chronic bronchitis, but may follow phthisis; it is sometimes associated with pneumonia. Traube thinks that decomposition of the sputa ensues more readily according as the sputa are more purulent.

Roger and **Colin**.—*On the Diagnostic Value of Jerking Respiration.* L'Union Méd., 120, 1861. Schmidt's Jahrb., vol. 113, p. 174.

Transitory jerking, Rogers says, has no pathological significance. If it is permanent it denotes some hindrance to the entrance of air into the lungs, caused by tuberculosis or pleuritic adhesions. It occurs very rarely in the early period of tuberculosis, and is on the whole a sign of small value.

Fonssagrives and **Vizerie**.—*On Enlargement of the Bronchial Glands in Adults.* Arch. Génér., xviii, Dec. 1861. Journ. de Bord., March 1861. Schmidt's Jahrb., vol. 113, p. 175.

In diagnosis Fonssagrives lays most stress on palpitation; he says, if the hand perceives an increased vibration, or a friction at a limited spot of either subclavicular region, and if there is heard at the same time a strong sonorous rattle limited to these spots, it is very probable that the lower part of the trachea, or one of the bronchi, is compressed by a tumour. The lungs generally contain no, or but little tubercle. The glands in the neck are sometimes enlarged. In one case most violent attacks of suffocation and aphonia were occasioned by a number of enlarged glands pressing on the left recurrent nerve. Almost all the cases were fatal.

Wiedemann—**Rochard**.—*Cases of Disease of the Mediastinum.* Inaug. Diss. Tübingen, 1856. L'Union, 119, 1860. Schmidt's Jahrb., vol. 113, p. 307.

Wiedemann records a case at the autopsy of which the anterior mediastinum was found filled with layers of solid exudation, while the pericardium was inflamed and contained six ounces of pus. The mediastinal effusion appeared to have resulted from long-continued pressure on the sternal region. It exerted *during inspiration* a constrictive action on the aorta, in consequence of which the pulse at that time was much weakened, though the heart's contractions continued. Rochard removed a fibrous tumour as large as a goose's egg from the anterior mediastinium.

Peacock, T. B.—*Two Cases of Obscure Pulmonary Disease following Typhoid Fever, in which Pus was expectorated in Large Quantities, and the Patients recovered.* Med. T. & Gaz., April 26th.

The first case was a girl, æt. 6, who recovered after a prolonged illness, having had profuse diarrhœa, pyæmia, and suppuration in various parts of the body. Peacock believes the expectorated matter to have come from an interlobar pleural abscess. In the other case the predominant symptoms were those of cerebral disturbance during the fever, while, during convalescence, cough and difficulty of breathing came on, which were suddenly relieved by the purulent discharge. This probably came from an abscess in a bronchial gland pressing on the left bronchus.

Leared, A.—*On Hæmoptysis in Influenza.* Lancet, May 3rd.

Leared records four cases in which this symptom occurred together with catarrhal affection, which ceased after a time, and recovery took place.

BAMBERGER, H.—*On the Chemistry of Sputa.* Wurzb. Med. Ztschr., ii, 1861. Schmidt's Jahrb., vol. 114, p. 3.

Bamberger examined the sputa (1) Of chronic bronchial catarrh; (2) Of bronchial dilatation; (3) Of chronic pulmonary tuberculosis; (4) Of acute tuberculous infiltration; (5) Of pneumonia. The following are the chief results:—There is much analogy between the analyses of the first four groups, in which the sputa are chiefly catarrhal. The salts of these sputa vary but little, the organic matters considerably. The insoluble salts form only about 4 to 5·5 per cent. of the whole saline contents, the chief amount consists of chl. sod. and phosph. potash. Puriform matter contains a greater quantity of organic and inorganic substances; there is considerably more phosphoric acid in the ash, and considerably less chlorine, and also less sulphuric acid. The ash of pneumonic sputa differs from that of catarrhal in several respects. The alkalies, combined with phosphoric acid, which amount to 10 and 14 per cent. of the saline constituents of the catarrhal sputa, are almost entirely absent in the pneumonia during the inflammatory period, but the sulphuric acid is remarkably increased. The quantity of chlorine (37 per cent.) is nearly the same as the average in the catarrhal (36 per cent.), and there is not much variation in the insoluble salts, except the phosphate of iron, derived from the blood. In the period of resolution, the sputa become more similar to the catarrhal. The phosphoric acid increases, the sulphuric diminishes, and the chlorine reaches a very high amount, while the potash and soda are present in the same mutual proportion as in the catarrhal, whereas during the inflammatory period this was inverted. In the sputa of bronchiëktasis, sulphuretted hydrogen, acetic, butyric, and probably formic acids, were detected.

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v. DUSCH.—*The Causes of the Inspiratory Depression of the Lower Ribs and of the Epigastrium.* Verhandl. d. Naturh. Med. Ver. zu Heidelberg, vol. ii, p. 167. Schmidt's Jahrb., vol. 114, p. 94.

One of these is the failure of the action of the intercostal muscles to oppose sufficiently the action of the diaphragm; a second is abdominal distention keeping the lower part of the thorax abnormally dilated, and the tendinous centre of the diaphragm fixed, so that it cannot descend in inspiration, but the ribs are drawn towards it; a third, the narrowing of the air-passages from any cause, so that the access of air cannot take place freely, and the air in the lungs is consequently attenuated during the act of expansion, and the surrounding pressure increased. In this case the anterior wall of the abdomen as well as the ribs are pressed in, and the anterior and upper part of the thorax becomes more arched.

NIEMEYER, P.—*Summary of Recent Researches Relative to Pneumonia.* Schmidt's Jahrb., vol. 113, p. 337.

This very comprehensive and valuable report contains so much condensed detail, that we can scarcely hope to present any abstract of its contents that will obviate the necessity for consulting the original. The first or general part contains an account of Ziemssen's inquiries into the statistics of pneumonia. In the continental cities of Europe about eight per cent. of all the deaths are caused by pneumonia. Taking the whole population of the earth, about three per cent. of all diseases are due to the same cause, and two per cent. of all cases of disease in hospitals. As to its geographical distribution, it appears that it is confined to no latitude; it is not absolutely more frequent in any one climate or latitude than in another. On the contrary, places closely adjacent, and having similar climates, show very considerable differences in the frequency of pneumonia. As to the influential conditions, *sex* does not appear to go for much; taking the whole population of Europe, there are six deaths from this disease among males, to five amongst females. *Bad hygiene* increases the amount of pneumonia, and so does *imprisonment*. Muscular exertion in the open air, with a regular life, and being inured to the weather, seems one of the surest means to ward off pneumonia. With regard to the frequency of pneumonia, it is subject to periodic and non-periodic fluctuations; it is much more frequent in some years than in others; '40, '42, '44, '49, '51, '53, '58, were pneumonic years, but not equal to '47; these variations show themselves especially in the female sex. As to age, it appears that pneumonia in children is often by no means parallel to pneumonia in adults; the disease may be epidemic in the one, and not at all so in the other. The prevalence of pneumonia coincides very much with that of typhus. In Europe about two-thirds of the fatal cases each year occur in winter and spring, from December 1st to May 31st; and the remaining third in summer and autumn. The mortality is nearly the same in winter and spring; it is lowest in the summer. May in Eastern Germany is a dangerous month; in Paris the maximum of cases is in April; in Switzerland in March. Küttlinger (Mittheil. d. Physik. Med. Soc. zu Erlangen, 1858) describes the influence of the weather on the general mortality and on thoracic inflammations in the city and district of Erlangen, for the years 1820—1856. The following are some of his conclusions:—Summer and autumn, prevailing moisture, west winds, and a moderate temperature, diminish, while winter and spring, east winds, and extreme variations of temperature, increase both the general mortality and the thoracic inflammations. Cold seasons are more unfavourable than warm ones. The variations of the atmospheric density seem to be quite unimportant. Huss' observations in Stockholm during sixteen years go to prove that pneumonia is not more frequent in northern than in more southern latitudes, and that it is not much affected by epidemic influences, as those which give rise to ague, cholera, or influenza. The disease was more frequent some years than in others; it was especially so in '49, '51, '55. It prevailed chiefly in the spring, and most in the month of May. Sudden variations of temperature appear to be the predisposing, and a chill the exciting, cause. The disease was three times as frequent in males as in females (taking the hospital population); it is returned in the proportion of one to ten in all diseases (internal ?—*Ed.*). The mortality amounted to 10·74 per cent. The average time of stay in hospital was 19·76 days during the eight years when venesection was employed; during the next eight, when it was omitted, 17·20. Bamberger finds the mortality in females almost twice that in males: and while between the years ten to fifty it is only 6·4 per cent., it rises after the age of fifty to 38·2 per cent. Schroten records three cases which seem to show that pneumonia (sporadic) may be contagious, affecting persons in close attendance on the sick. Skoda is convinced that some pneumonias are the result of ague miasm, which remains latent in the system for some time, so that its effects, when they occur, are attributed to chill or errors in diet, which would of themselves have been unfelt.

Part II. treats of the "Special Pathology of Pneumonia." The view taken is, that the physical signs are inferior in value to those afforded by observation of the temperature, pulse, condition of the urine, and tendency to crisis. The latter may occur on any day of the disease, according to Metzger, but the 4th and 6th are the usual dates. The total amount of urine in twenty-four hours is diminished, but there are great daily variation in different individuals. Its colour is always fiery-red, and its reaction acid. The urea amount is always increased, especially on the sixth day (the maximum), after which it gradually falls, even below the normal amount. The chlorides are always diminished during the existence of fever and exudation, but increased during absorption. Decrease of temperature precedes the falling of the pulse. On an average, the fourth is the day of minimum (maximum?) elevation; the decline begins on the fifth, becomes rapid and attended with critical phenomena on the seventh, and the minimum is reached on the ninth. The pulse is sometimes intermittent before it becomes slower. Herpetic eruption and sweating are also critical phenomena, and, like all such, are to be regarded not as the cause but as the consequences of a favourable change in the disease. The fever in the majority of cases was inflammatory, with regular course and evident crises. It was typhoid in twelve out of forty-eight cases, which were not instances of continued (typhus) fever. In two classes of cases it may be termed pyæmic. In one of these which does not so properly belong to true pneumonia, the lung disease is secondary to ordinary pyæmia; in the other, primary pneumonia in a dyscrasic individual, as a drunkard, gives rise to pyæmia, by sanious decay of the exudation and its resorption from the lung. With regard to pneumonia of the apices of the lungs, Smoler adduces evidence to show that in young and robust individuals it is not more perilous than pneumonia of the base or middle, and requires no special treatment. He admits, however, that it is more frequently followed by tuberculosis, and more often attended with adynamia, but explains these circumstances by the statement that pneumonia of the apices chiefly occurs in persons advanced in life. Smoler states, that males who have suffered from pneumonia of the lower lobes retain subsequently the superior costal mode of breathing, while females who have had their apices inflamed continue afterwards to breathe with the diaphragm. With regard to *pain*, Smoler affirms that its presence or absence, its violence and its quality, have no prognostic import. He does not believe that herpes lab. occurring in pneumonia affords any favourable prognosis; he explains away the evidence of the less mortality (9·3 : 29·3) by observing, that herpes occurs at an age when the mortality is naturally very small. Drasche's paper on "Tetanus in Pneumonia" has been noticed in the last Year-Book. Jaksch and Kaulich point to the existence of aceton in the urine and the breath as the cause of the apathy and somnolence observed in many cases. They also find that the hepatised region after recovery does not completely regain its full resonance; there is more or less weakening or abbreviation of it. (Schallverkürzung.) Chrastina states, that pneumonia causes one-tenth of the diseases of old persons, and one-eighth of the deaths. He ranks the cases as (1) Primary pneumonia, which is mostly lobar, runs its course very rapidly to purulent infiltration, and is not attended with distinct prodromata, or notable fever. Parotitis is a frequent complication, and of bad omen. The pneumonia may be marked by cerebral phenomena. (2) Broncho-pneumonia, which does not differ from the same affection at other ages. (3) Hypostatic pneumonia, which is prone to occur in those who are obliged to lie on their backs for a length of time on account of a fracture, paralysis, &c. Part III. consists of a set of cases, illustrating various important points. Gauchet records one case of typhoid pneumonia, which he considers, with Grisolle, as a primitive lung disease, assuming a malignant character, or one resembling that of typhoid fever, from individual or atmospheric causes, and certainly distinct from the pneumonia of typhus. Camerer records a case of copious hæmoptysis coexisting with pneumonia in a female free from tubercle, and with no cardiac disease. Part IV. deals with treatment. Huss pursues a middle course between busy interference in all cases, and doing nothing. He has seen pneumonia in all its stages get well, even under the most unfavourable circumstances, when the patients have been left to themselves. In several of the cases abscess had formed, and in one limited gangrene. He recommends in the stage of congestion venesection, which may be repeated the next day if hepatisation has not occurred. The most suitable time is that of the evening exacerbation. Cupping or leeches, saline aperients, cold or warm applications, are also useful. In the graver cases, where the pulse does not yield to venesection, or where bleeding is contra-indicated, tartar emetic in one grain doses, *secundis horis* is advised. In the stage of red hepatisation Huss dispenses with venesection, but administers tartar emetic, gr. i *secundis horis*, if the pulse be large and full, or tense, or oppressed, not if the pulse be small, weak, irregular. He also gives hydr. c. cretâ or calomel, grains ij, *secundis horis*, in cases unsuitable for tartar emetic; ol. tereb. in cases where grey hepatisation is to be feared; camphor when the nervous power is failing; senega as an expectorant, &c. In the stage of grey hepatisation he relies on ol. tereb., camphor, ammonia, and, after some improvement has taken place, he gives quinine. Passing over his treatment of consecutive diseases and complications, we notice the following important observations relative to pneumonia coexisting with delirium tremens:—(1) When there are signs of cerebral hyperæmia, as furious delirium, reddened face, full tense pulse, he applies C. C. nuchae, purgative enemata, tartar emetic gr. j—ij *secundis horis*; opium is injurious before the fourth day, but may then be useful if sleep is prevented by hallucinations. If muttering delirium continues, with a pale, collapsed face, a small and very frequent pulse, and the pneumonia is still unresolved, ammonia, turpentine, and tonics may still effect a cure. (2) If there be delirium without symptoms of cerebral congestion or mania, no special regard need be paid to the delirium; it passes into a deep sleep as resolution takes place. If the delirium, however, persists after resolution, opium may be given, or, if the pupil be contracted, belladonna. (3) In adynamic patients, with quiet delirium (cachectic drunkards), with pale, collapsed face, and small weak pulse, stimulants and narcotics must be given without regard to the stage of the disease. Oppolzer's paper on the causes and treatment of dyspnœa in pulmonary inflammations has been noticed in the Year-Book for 1860, *v.* p. 219. Brandes finds expectancy produce no better results than venesection and antimony, and thinks no satisfactory conclusions can be drawn from cases massed together. Each must be studied by itself, as well as each epidemic. He speaks highly of acet. of lead in cases of "dissolute and anæmic blood crasis," and also in the pneumonia of young children. The result of Bourgeois' experience is, that bleeding is wholly undesirable in pneumonia. Legendre also pursues an expectant treatment in "legitimate" pneumonia, but catarrhal calls for active interference. Hamon recommends an alkaline "medication," consisting in the administration of three to four drachms of sod. carb. during each twenty-four hours; this method is useful in all inflammatory affections. Ign. Sauer, at Pesth, has employed sulphate of copper extensively, and deems it a specific for pneumonia depending on hyperinotic blood-crasis. He gives half a grain, with a little opium, every hour. The fever ceases in five to ten days, and convalescence ensues in about the same time. Out of fifty-six patients, fifty-three recovered. In adynamic pneumonia, or of small extent, and when the intestinal canal is irritable, mercury is preferable. Comparing the efficacy of the principal curative means, he assigns to cupri sulph. a value of 6·3; to venesection, a value of 5·4, to tartar emetic a value of 2·1, to symptomatic treatment a value of 1·2. Sprinkhardt is also warm in his praises of this remedy; out of thirty-five cases treated with it he had only one death. Roth has used veratria internally, but in smaller and less frequent doses than those employed by Ritter, and with equally good results. Smoler and F. Niemeyer agree in strongly recommending the local application of cold, as ice, to the chest. Valentini, believing in the tendency of pneumonia to get well spontaneously, finds a useful adjuvant in chloroform inhalation, which he carries to the degree of anæsthesia, but not of narcosis. He administers it every two or three hours for several days. It calms the irritation and pain, tranquillises the nervous system, and reduces the fever. It is not suitable for children, the hysterical, or the epileptic.

BARTHEZ.—*The Expectant Treatment of Pneumonia in Children.* Gaz. des Hôpit. Lond. Med. Rev., May 1862.

Barthez deduces the following conclusions from therapeutic experiments tried upon 212 children. *Left to itself* pneumonia begins to resolve from the sixth to the eighth day from its commencement, and above all, on the seventh day, in the majority of cases, or at least in one-half. In many children the period of augmentation is shorter, resolution commencing on the fourth or fifth day. A mild treatment does not appear to modify this natural progress of the disease at all. Resolution once begun, usually goes on rapidly; a day sometimes is sufficient to complete the cure; ordinarily the period of decline occupies from two to six days. A very important fact comes out, however, when the results of active treatment, especially by removal of blood, are examined. *The period of convalescence is unquestionably very notably protracted*, and that in proportion to the activity of the depletory measures adopted. Barthez allows, however, that it may be occasionally advisable, for the temporary solace of the patient's sufferings, to put in force remedies which are not calculated to produce any beneficial influence on the general course of the malady. Of the 212 cases only two died, and these were both severe cases of double pneumonia of a typhoid type. Half of the patients had no treatment whatever, and the two cases of death are distributed among both groups.

EISENMANN.—*On the Ætiology of Pneumonia.* Arch. f. Wissenschaft. Heilk., vi, 2, 1862. Schmidt's Jahrb., vol. 114, p. 309.

Eisenmann lays down, that one form of disease, as pneumonia, may result from very different causes (morbid impulses), and that the same morbid cause may give rise to very different forms of disease.

KÖSTLIN.—*On the Statistics and Ætiology of Bronchitis, Pneumonia, and Diarrhœa.* Arch. f. Wiss. Heilk., vi, 1862. Schmidt's Jahrb., vol. 114, p. 310.

Bronchitis made up 21·2 per cent. of all internal diseases, taking the experience of the district, but in the hospitals it was scarce half as frequent. Pneumonic cases were in the ratio of 1 to 31·4 of all diseases considered in the aggregate, but in hospitals they gave a ratio of 1 to 21·5. In the mortality tables of the city of Stuttgard pneumonia shows a figure of 1 to 8·5, in those of the district of 1 to 6·1. Köstlin also finds that great cold is especially dangerous to the aged, great heat to early infancy, the latter by causing diarrhœa in the summer, the former pneumonia in the winter and spring.

GEISSLER.—*Herpes in Relation to Pneumonia.* Froriep's Notizen, vol. 3, No. 7, 1861. Med. T. & Gaz., Feb. 1st.

Geissler observed herpes 182 times in 421 cases, 87 of these were fatal, and among them only 17 had herpes. The eruption appeared in two-thirds of the cases on the second, third, and fourth days, and in one-third of the whole number on the third day alone. The appearance of the eruption on the second or fourth day was a more favourable sign than on the third.

HOGAN.—*Success of the Tonic and Stimulating Plan of Treatment in Pneumonia and other Diseases.* Amer. Med. T., May 31st.

Numerous cases of pneumonia were admitted into the military hospital, caused for the most part by exposure to cold and wet. Not one was bled, and not one died. The treatment consisted mainly of very mild counter-irritation. There were about 130 typhoid cases, of whom only two died. Pneumonia, bronchitis, and diarrhœa were frequent complications. A nutritious diet was given, and eight to sixteen ounces of whiskey daily, made into a milk-punch. There were forty cases of pericarditis, all but one, from rheumatism, none fatal. Alkaline treatment was employed, with opium occasionally, and stimulants always, and counter-irritation locally.

Bennett, J. H.—*On the Treatment of Pneumonia, with the Results of* 105 *carefully-recorded Cases.* Brit. Med. J., Aug. 23rd.

Bennett defines an inflammation as a disorder essentially composed of an exudation from the blood. He contends that antiphlogistic treatment is improper, because it cannot remove exudation and it induces debility, which interferes with the necessary cell-transformation. He holds that the strong pulse, fever, and increased flow of blood to the inflamed part are the results and not the causes of inflammation, and are of a reparative character, so that they should not be interfered with. In accordance with these views, the object of treatment should be to bring the disease to a favourable conclusion by supporting rather than diminishing the vital strength of the economy, and this not by overstimulating but by promoting the return of the nutritive processes to a healthy condition. Of 105 cases treated during the last fourteen years by Bennett in the Edinburgh infirmary, there were 58 single uncomplicated, whose duration averaged 13·5 days; double, 19 of 20 days' duration; complicated, 17 of 15·8 days' duration, of uncertain duration eight, and deaths three, all of which were complicated cases. The average age of all the cases was $31\frac{2}{3}$ years. Some, especially the cases of double pneumonia, were very severe, with great dyspnœa and urgent symptoms. He concludes that in pneumonia and all inflammations the danger is in direct ratio to the weakness of the system and the existence of complications. Simple pneumonia under non-debilitating treatment invariably recovers.

Chambers, T. K.—*Clinical Lectures on the Treatment of Pneumonia and Pleurisy.* Lancet, Aug. 16th, Sept. 12th.

Chambers recommends in pneumonia blood-letting, general or local, jacket poultices, and food every two hours, with or without wine. He thinks that blood-letting may be practised without regard to the stage of the disease. The amount of dyspnœa and the degree of vigour of the heart's action are the chief points to be regarded. To the poultice he attributes more virtue in saving the lives of pneumonic patients than to any other remedy. "The action of warmth and moisture on animal tissues tends directly to increase their vitality." In pleurisy, besides the local depletion and poultices, he used pot. nitr. with tr. ferri. mur. and pills of digitalis, squill and pil. hydr. *bis die.*

Report of the Vienna Infirmary for the Year 1859. Schmidt's Jahrb., vol. 116, p. 116.

The whole number of patients treated in the year is 7216 (3960 males, and 3256 females). At the close of the year 679 remained under treatment. The total mortality was 1054 (574 males, 480 females), or 14·6 per cent. The principal diseases were typhus, catarrhal affections of the alimentary canal, and tuberculosis. Pneumonia was not nearly so prevalent in 1859 as in 1858, but was more fatal. In 1859 there were 159 cases admitted, with a mortality of 27 per cent; in 1858 the number was 299, with a mortality of 24 per cent. The total number of pneumonia cases was 171 (110 males, 61 females), the deaths were 43 (26 males, 17 females). The reporters state particularly that they by no means repudiate blood-letting, not, however, believing that it has any direct influence on the inflammatory process, but that, by diminishing the mass of the blood, it enables the remaining quantity both to be better aërated and to circulate more freely than it could do otherwise. There were 683 tuberculous patients (379 males, and 304 females), 421 died (230 males, and 191 females); the lungs were diseased in 621 cases primarily, and only in 8 instances was the morbid process confined to other organs, as the bones and skin. Together with the lungs the intestine was involved 123 times, the absorbent glands 55, the peritoneum 20, and the larynx 19.

BANKS, J. T., M.D.—Dublin Q. J. of Med. Sc., May 1862.

Records a case of empyema in which the use of the drainage tube was of very great advantage. He had previously been tapped seven times. Amphoric respiration, voice, and cough were present, although there was no communication between the pleural cavity and the bronchi.

SEDGWICK, L. W., M.D.—Lancet, July 21st.

Records two cases of empyema in which thoracentesis was performed with marked advantage. The first patient was tapped twice and regained a very fair state of health for four or five years. The second was a case of phthisis, but was so far relieved by the operation that recovery appeared possible, when he was cut off by influenza.

THORP, H.—*Pleuritic Effusions, viewed in Relation to Thoracentesis; with an Account of Two Cases in which the Operation was successfully performed.* Dublin Q. J. of Med. Sc., Aug. 1862.

Thorp considers the quality of the effused fluid to constitute a point of paramount importance in reference to thoracentesis. He points out that purulent effusions tend to the surface, and are discharged either externally or into a bronchus, while serous effusions are either directly absorbed, or first converted into purulent matter, if they are evacuated in the modes just mentioned. He further remarks, that spontaneous openings in cases of empyema generally occur anteriorly and high up, and shows that the following advantages result from this position:—by the liquid contents being caused to proceed from below upwards the sudden evacuation of the cavity is prevented (and the consequent entrance and *imprisonment* of atmospheric air in proportionate volume); the suppurating sac is emptied gradually by its own contraction, and the air, which can only enter in small quantity, has *free egress*, being *always uppermost*, and in close proximity with the discharging orifice. We should, therefore, in conformity with these principles, not open the chest in a depending position; for if, unfortunately, afterwards putrefactive changes take place, the septic gases floating above the other contents *have no exit*, are absorbed by the lining membrane of the cavity, excite inflammation of the latter, contaminate the blood, and produce typhoid symptoms. The position he recommends is between the fourth and fifth ribs anteriorly. Constant drainage of the abscess may be provided for by the introduction of one of Chassaignac's tubes. In cases of hydrothorax, or non-purulent effusions, there is no need to deviate from the spot usually selected for thoracentesis, but the fluid may be removed by some of the contrivances to prevent the admission of air. As our object should be to assist the natural processes, the fluid ought in the first instance to be only partially withdrawn; the remainder may be absorbed, or, if not, the tapping may be repeated.

DELIOUX.—Bull. Génér. de Thérapeut., Sept. 30th, 1861. Brit. & For. Med.-Chir. Rev., Jan.

Delioux recommends strongly the employment of iodine frictions in the treatment of pleurisy and endocarditis. The skin should first be thoroughly cleaned, and the following preparation then rubbed in for five minutes, night and morning:—℞. Pot. Iod. ℥j, Iodinii ʒij, Adipis ℥iv, ɱ. He has satisfied himself by examination that the iodine is absorbed, and he does not consider it necessary to give iodine at the same time internally.

CHAMBERS, T. K.—*Clinical Lecture on Idiopathic Hydrothorax.* Med. T. & Gaz., Feb. 8th.

Chambers contends for retaining the name Idiopathic Hydrothorax, meaning thereby a collection of serum in the pleural cavity, injurious to health from its quantity, and arising from an abnormal state of the pleura itself. This abnormal state may be inflammatory, or perhaps mere arrest of absorption. Treatment by blisters, mercury, and diuretics is employed to promote absorption. Blisters do good by quickening the capillary circulation, and so inducing increased endosmosis.

LANDOUZY.—*On the Value of Ægophony as a Sign of Pleurisy.* Arch. Génér. de Med., Dec. 1861. Edin. Med. J., April.

Landouzy records two cases which go to show, (1) that if the lung is compressed by fluid alone, without firm false membranes, as soon as the fluid is removed it resumes its normal play, and a considerable diminution in the bronchial breathing, ægophony, and dulness can be recognised at once. If the lung is invested with resistant false membranes, it does not at once recover the power of expansion, and for some time bronchial breathing and ægophony can be heard, and even more clearly than before, for the simple reason that the lung is now brought nearer to the ear. If, finally, the false membranes are fibrous or cartilaginous, the lung remains permanently imprisoned, and when the fluid is evacuated the modifications of the voice, of the breathing, and of the percussion remain as before. Ægophony thus results from external, bronchophony from internal, compression of the lung.

TROUSSEAU.—*On the Treatment of Pleurisy.* J. de Med. & de Chir. Pratiq., March 1862. Edin. Med. J., April.

Trousseau eschews blood-letting, rarely even cupping, but gives calomel (à doses réfractées) one-thirteenth of a grain *o. horâ*, with tr. aconit. and tr. digitalis. He never uses blisters, but, if the pleurisy is simple, and the effusion large, employs thoracentesis. He joins in Aran's opinion, that right-sided pleurisy is mostly of tubercular origin, while left-sided is simple.

Billroth, Th.—*On Peripleuritis forming Abscess.* Arch. f. Klin. Chir. ii, p. 133, 1861. Schmidt's Jahrb., vol. 113, p. 40.

Billroth relates two cases, and observes, that many of the so-called "abscés froids," especially those appearing to originate in or under the pectoral major, are cases of this kind. They may be mistaken for encysted empyema, or periostitis of the ribs. As aids to the diagnosis, he mentions the commencement of the disorder with signs of a moderate pleuritis, the speedy formation of abscess at the corresponding spot, the relapses of pleurisy, the successive undermining of the skin, and the frequent perforation of it, without notable fever. He thinks it not improbable that cupping may give rise to the disease.

Goode, H.—*On Patulous Openings through the Walls of the Chest.* Brit. Med. J., Oct. 18th.

Goode records five cases of thoracic effusion, in two of which perforation occurred spontaneously. In the last case the orifice has remained patulous for a series of years. It is kept habitually closed by a spring-pad, and every morning the accumulated fluid (℥iv - ℥v) is evacuated either through the orifice, if it is opened, or through the mouth, if that is closed. Occasionally hæmorrhage takes place into the cavity and is discharged in the same way. The opening is about the level of the third rib, to the right of the sternum. Goode remarks, that for a patulous opening a situation high up is more convenient than a lower, though the latter may be more suitable for withdrawing the fluid in the first instance.

Hill, W. R.—*An Analysis of 220 Cases of Pulmonary Consumption.* Brit. & For. Med.-Ch. Rev., Jan. (Sequel of Report in Year-Book for 1861, p. 93.)

He shows that of 103 cases which took ol. morrh., 62·13 per cent. improved, while of 71 who did not take it, but were otherwise similarly circumstanced, only 40·84 improved. The advantage of the oil was evident in all the stages of the disease, but was most marked in the early. As to the complications, there occurred among the 220 patients six cases of pneumo-thorax, seventeen of laryngeal affection, five of fistula *in ano*, three of tubercular meningitis, two of tubercular peritonitis, five of tubercle in the intestines (demonstrated by autopsy), three of albuminuria, three of diseased bones, one of diseased supra-renal capsules. In all the cases of pneumo-thorax there had been physical evidence of tubercular softening of the lung before it occurred, and in four cavities had been detected. With one exception, the pneumo-thorax took place on the side most diseased, in five cases on the left. One case only made a good recovery. Males appeared to be more subject to laryngeal phthisis than females, in the proportion of 9·2 to 4·4. Leeching and vesication externally proved more effectual than application of nitrate of silver internally. As to the duration of the disease, Hill's experience leads him to fix a term of two or two and a-half years for uncomplicated pulmonary phthisis; cases of an acute character and those which are complicated by intercurrent disease terminating much earlier. The disease is most likely to be chronic in persons of advanced age, free from hereditary tendency, and from hectic symptoms. The points most deserving attention in judging of a patient's condition are, the rate of the pulse, the presence or absence of night-sweats, and the gain or loss of bodily weight. In females the absence of the catamenia is an unfavourable sign, 80 per cent. of those who had been amenorrhœic for three or four months lost ground decidedly.

SMITH, E., M.D.—*On the Nature of Phthisis Pulmonalis, and especially of its First or Pre-tubercular stage.* Amer. J. of Med. Sc., Jan. 1862.

Smith argues against the usually-received view, that phthisis essentially depends on a change in the blood, and criticises especially the view formerly held by Rokitansky of a fibrin-crasis of this fluid giving origin to tubercle. His own view is, that the action of the air-cells is diminished, and that their lining epithelium accumulates and degenerates, and constitutes the morbid product. His chief argument lies in the statement that numbers of persons "believed to be prone to phthisis" exhibit flattening and lessened mobility of the chest, feebleness and shortness of inspiration, and lessened vesicular murmur, similar to, but probably to a less extent, than that which is found in the early stages of phthisis. Diminished action of the air-cells he thinks very likely to result from various depressing agencies. The localization of tubercle at the apices he accounts for by this part of the lung being the last to be distended by the downward traction of the diaphragm. Early hæmoptysis is induced by the diminished amount of blood in the diseased part, and its accumulation consequently in others.

JONES, J.—*Clinical Enquiry into the Use of Iron in Pulmonary Consumption.* Med. T. & Gaz., March 22nd.

Jones lays great stress on the administration of iron for a very long period—one, two, three, or more years—as long as not only the condition of, but the tendency to, tuberculosis exists. He thinks that a small dose—♏. iij - v of a 10-per cent. tincture of the perchloride twice or thrice daily, will often be found sufficient.

FRONMULLER.—*Caoutchouc Electuary in Tuberculosis.* Memorab., vi, 1861. Schmidt's Jahrb., vol. 113, p. 164.

Of twenty-seven cases nineteen were improved, the cough was lessened, as well as the night-sweats, and the appetite was increased.

CHAMBERS, T. K.—*On the Treatment of Pulmonary Consumption.* Brit. Med. J., May 17th.

Chambers lays down, that it is not the existing tubercle, but the tendency to form fresh tubercle, which we have to fear and guard against. The grand object is to improve the nutrition of the body as much as possible, and to supply an abundance of albuminous food. Cases do occur in which tubercular disease appears to be stayed in its development by the habit of spirit-drinking, the alcohol acting as an anæsthetic. It is not, however, desirable to advise the resumption of drinking habits; an effort must be made to invigorate the digestion. Chambers has tried the excreta of serpents, as lately recommended, but the effects were simply those of so much pump-water. Dr. Cotton, at the Brompton Hospital, has also experimented with this substance in eighteen cases (phthisis, bronchitis, and emphysema) with precisely the same results. *V. loc. citat.*

KEBBELL, W.—*On the Climate of Brighton in Pulmonary Consumption.* Lancet, April 26th.

Kebbell remarks, that the common opinion that Brighton is unsuitable as a residence for phthisical invalids, has probably arisen from two suppositions, both of which he believes and endeavours to show are quite erroneous. One is, that Brighton air, as a rule, is keen and changeable; the other, that the origin of phthisis is due to some climatic influence, and that a keen and changeable climate is that of all others which mainly contributes to the production of this disease. In opposition to the latter notion he quotes from Dr. Greenhow's researches, to the effect that phthisis increases in both sexes, *cœteris paribus*, in proportion to the degree in which the population are devoted to indoor occupations. All situations in Brighton are not alike, some are more suitable for patients at one stage of the disease, and some for those in another. Cases in which there is much general relaxation and debility are likely to find Brighton suitable, while those who suffer from dry cough, and nervous irritability, with a tendency to inflammatory attacks, will derive more benefit from Torquay or Penzance. The subjects of laryngeal phthisis, and those who suffer from dry, irritating cough generally, are injuriously affected by sea air, and are more comfortable in a mild and somewhat damp climate.

COTTON, R. P.—*The Action of Pot. Chlor. in Phthisis.* Med. T. and Gaz., May 17th.

Cotton, after a trial of the drug in twenty-five cases, concludes (1) that it has no specific action upon consumption. (2) That its usefulness, even as an auxiliary in the general treatment of phthisis, is very questionable, and is probably limited to that cachectic class of cases in which it and allied remedies are so often serviceable.

ROGER.—*On the Value of Jerking Respiration as a Sign of the Commencement of Pulmonary Tubercle.* Bullet. de la Soc. Méd. des Hôpit. Lond. Med. Rev., June, 1862.

In cases where it exists (and the number is very limited) it may be regarded as a sign of pulmonary phthisis, but it does not show itself more frequently in very early than in the more advanced stage, and thus it must not be considered to indicate the *commencement* of the malady. The symptomatic value of jerking respiration is but moderate in adults, and almost *nil* in children.

BREHMER, H.—Deutsch. Klinik., Feb. 15th, 22nd, March 8th.

Records four cases of phthisis greatly benefited by residence at Görbersdorf.

DIEUDONNÉ, A.—Brit. Med. J., Aug. 30th.

Records a case of phthisis in which great improvement was effected by the inhalation of pulverized tar-water. He finds also sulphurous water of great advantage in the apnœa and cough which accompany emphysema.

Cotton, R. P.—*On the Action of Quinine in Phthisis.* Med. T. and Gaz. Aug. 30th.

Cotton finds quinine, as a general remedy, inferior to other tonics, and in some cases injurious. A combination of quinine and iron is very beneficial.

Waters, A. T. H., M.D.—*Observations on the Pathology of Emphysema of the Lungs.* Brit. and For. Med.-Chir. Rev., Oct., 1862.

Waters distinguishes partial lobular emphysema, lobular emphysema, and lobar emphysema. The latter is by much the most important form, the whole of both lungs generally being affected. He finds the walls of the air-sacs to become perforated with small openings, which become more numerous and larger, so that at last the partitions of adjoining cavities are almost quite destroyed, with, of course, a corresponding number of vessels. He has no doubt that the disease in its severer forms is of a constitutional nature, and that it consists, at least in part, of a mal-nutrition of the pulmonary tissue, causing its degeneration. The exact nature of this morbid change he cannot determine; he does not think it is of a fatty character. The grounds for entertaining the above view are (1) The absence in many advanced cases of previous severe cough. (2) The general character of the affection, involving equally both lungs and all parts of them. (3) The hereditary nature of the disease. (4) The beneficial effects of a tonic treatment, such as is used in other degenerations.

DIGESTIVE SYSTEM.

Moore, Neligan, J., M.D.—Dublin Q. J. of Med. Sc., Aug. 1862.

Records a case, applying for life insurance, in which the lining membrane of the tongue and inside of the cheeks was of a dead-white colour, uneven, but devoid of papillæ. The functions of the parts were normal. This state had existed thirty years without change, and no cause could be discovered for it. The life was accepted at an extra rate of premium. About four years later, in consequence of an accidental bite, a tubercle of the size of a pea formed on the edge of the tongue, and was treated with caustic. After some time, however, hæmorrhage set in, necessitating an operation, which he survived only a few months, cancer having invaded the glands in the neck.

Nélaton.—*Accidents produced by the Eruption of the Wisdom-Teeth.* J. de Méd. et de Chir.-pratiq., vol. xxxiii, p. 61.

Nélaton records eight cases of long-continuing abscesses resulting from this cause, in which much treatment had been employed quite ineffectually until the wisdom-tooth was allowed free space to develop itself. Sometimes it is necessary to extract the adjacent molar.

Bouchut.—J. de Méd. et de Chir.-pratiq., vol. xxxiii, p. 198.

Asserts the occurrence of a malignant ulcero-gangrenous form of angina distinct from diphtheria. In the case recorded, the child, æt. five years, recovered under treatment with repeated quarter grain doses of tartar emetic and bromide of potassium.

Beau.—J. de Méd. et de Chir.-pratiq., vol. xxxiii, p. 249.

Finds that the free administration of tartar emetic and ipecacuan vomits sometimes completely dissipates a commencing typhoid fever.

Nélaton and Trousseau.—J. de Méd. et de Chir.-pratiq., vol. xxxiii, p. 411.

Find that fissures of the anus are successfully treated by enemata of ext. krameriæ, gr. 75 ad ℥iij used morning and evening, and retained fifteen to twenty minutes, as long as there is pain on returning the injection. When the pain has ceased they may be used once a-day, or once every two days. It is also useful to apply locally a magma of bismuth, one part to three glycerine.

Guthrie, Alex.—*On Ulcerative Disease of the Throat.* Edin. Med. J., Oct.

Guthrie describes a form of disease consisting of febrile symptoms, prostration, gangrenous inflammation, sloughing and ulceration of the throat or air-passages. He distinguishes it from scarlatina, but makes no mention of diphtheria, with which it seems to correspond very closely. After an emetic and purgative, copaiba is the remedy which he gives every two, three, or four hours, and which he considers most effectual.

Clark, A.—*Aphtha Figurata; Clinical Remarks on its Pathology and Treatment.* Med. T. and Gaz., Jan. 11th.

This disease, as it occurs in adults, passes through three stages, which are sometimes seen simultaneously in different parts of the same tongue. In the first stage it is studded with variously shaped, white, opaque, slightly raised, red-edged patches; in the second with shallow, red, angry-looking, white-margined erosions; in the third, with smooth, glassy depressions, through the thin, tensely-stretched lining of which the subjacent textures are visible. The morbid process is often repeated in the same spot; and then the papillæ are destroyed, and the mucous membrane replaced by fibroid tissue. Some cases are referrible to syphilis, some to local irritation, some are inexplicable. Cure is very difficult, but it is to be attempted by removing all possible causes of local irritation, by the application of lunar caustic to the patches, or of liquor sodæ chlorin., followed by a saturated solution of arsenic in H. Cl., Pot. iod., pot. chloras, and liq. pot. arsen., are the internal remedies recommended, or in some intractable, cases hydr. iod., half a grain, with extr. conii.

Wood, S.—Arch. of Med., No. x, 1862.

Records a case in which a cast of the œsophagus, seven inches long, composed of squamous epithelium, was brought up by a female patient.

KEILLER, A.—*On Cancrum Oris.* Edin. Med. J., April, 1862.

Keiller gives the histories of six cases, of which two recovered, the last being less severe than the others. He points out the diagnosis between the gangrenous stomatitis, or cancrum oris, and the much less dangerous affections known as ulcerative, or follicular, or aphthous stomatitis. Cancrum oris almost always ensues upon some debilitating disease, typhoid fever, measles, ague, struma. Unhealthy hygienic conditions, beyond doubt, have to do with its commencement as well as progress. Besides a general tonic treatment, Keiller insists on early and thorough cauterization of the affected cheek with nitric acid. The application is to be made under chloroform, and great care taken that no sloughy part escapes the action of the acid. The mouth ought also to be well syringed out with chloride of lime solution, to remove the putrid discharges, and get rid of the gangrenous emanations, which, being continually inhaled, contaminate the blood, and so in all probability contribute materially to the fatal event.

WILLIAMS, THOS., M.D., F.R.S.—*On Perforating Ulcer of the Throat.* Brit. Med. J., July 19th.

Williams has met with twenty cases, in four of which it was certain that no syphilitic disease had ever been contracted; in fifteen syphilis had existed, and in one it was doubtful. The perforating ulcers are probably allied to the excavating, which are met with in the pharynx, larynx, and tonsils, but differ from them in several respects, especially in that they are absolutely curable by pot. iod., while mercury is more efficient for the excavating. Some interesting remarks are made as to the relation of the syphilitic, rheumatic, and scrofulous diatheses to each other.

ANSTIE, F. E., M.D.—*On the Alcohol Question.* Lond. Med. Rev., March, April.

Anstie argues (1) That in small doses, not too frequently repeated, alcohol acts as a special stimulant of the nervous system, and exerts no poisonous action on the body whatever. (2) That alcohol in large doses acts as a narcotic poison, and that its operation as such is purely depressing. (3) That alcohol, if it can be shown to possess the power of singly sustaining life, although imperfectly, for any considerable period, ought to be considered as a *food.* Of the latter position, he adduces some very notable evidence. The first case is one of acute rheumatic pericarditis, in which the stomach could retain *nothing* but gin-and-water for seven days, and very little for another week. There was no emaciation, and strength was quickly recovered. He took ℥xij of gin daily. Case II. was one of pneumonia in a child, where the stomach rejected *everything,* even water, except port wine, of which ℥vj were taken daily for twelve days. For some days after nothing more could be taken except a little cod-oil. The child recovered rapidly and completely, and at no time was there any perceptible emaciation. Case III. was one of very severe double pneumonia, in which the administration of antimony brought on such great irritability of the stomach, that everything was rejected except iced water. This patient took twenty-four ounces of brandy every twenty-four hours for ten days, and for many more very little else. He was never inebriated, made a rapid and complete recovery, and resumed his ordinary work in a month. There was never any perceptible emaciation. Occasional doses of morphia were given at night to procure sleep. Case IV., one of pleurisy in an old man, took for six days no other nutriment than ℥ss of brandy every hour, and but little else for several days more, and recovered rapidly without any emaciation or prostration. These cases certainly prove the power of alcohol *alone* to sustain life, to prevent emaciation, and loss of muscular strength, and to subdue delirium, where it does not depend on inflammation of the brain. Anstie adds, that patients whose skin is dry and burning take alcohol often with great advantage, the skin becoming in a few hours moist with sweat. Further, there seems no risk that a taste for alcohol is created by the free administration of it in acute disease. The desire for it ceases as soon as the appetite for ordinary food returns.

Marcet, W., M.D., F.R.S.—*An Inquiry into the Influence of the Abuse of Alcohol as a Predisposing Cause of Disease.* Brit. and For. Med.-Chir. Rev., April, 1862.

Marcet examined 695 male patients, and distributed them into fifteen groups of employments, and nine of diseases. The following are some of his results :—Shopkeepers, considered as a class, are more liable than any others to suffer from alcoholism. Marcet ascribes this to their health being lowered by in-door occupations and unhealthy dwellings. Drinkers are more liable to febrile affections than sobers, and also to diseases of the lungs and air-passages, especially to laryngitis. With regard to diseases of the stomach and intestines, drinkers do not appear to suffer from them more or so much as sobers; they are, however, more liable to gastritis than to intestinal disorder. The abuse of alcohol does not appear to predispose to disease of the skin, even less to gout and rheumatism, and in a still decreasing ratio to non-alcoholic disorders of the nervous system, and to diseases of other internal organs and tissues, mostly inflammatory. Certain tables which are given show clearly that persons engaged in various employments are predisposed to gout and rheumatism according to their drinking tendencies.

Fonssagrives.—*The Therapeutic Application of the "Diæta Sicca."* Bull. de Thér., June 1861. Schmidt's Jahrb., vol. 115, p. 72.

The physiological effects of this proceeding are, more or less thirst, which diminishes somewhat after a few days, increased density of the fluids, diminution of the volume of the organs, shrinking or disappearance of the subcutaneous veins, emaciation, constipation, and increased absorption. The saliva becomes thicker, the urine red and sedimentary. A dry diet may be used, (1) to diminish secretions that are excessive—cases of diabetes insipidus have been greatly improved by it; (2) in cases where liquids are ill digested and disagree with the stomach; (3) in different kinds of dropsies; (4) to promote absorption in cases of inflammatory exudation; (5) in the so-called Arabian cure of syphilis. The details of this treatment as carried out by Chomel consist in giving thick soups, bread, roast or baked meat, fish without sauce, and fruits, except the very watery. All the ingesta are to be thoroughly insalivated, liquids gradually withdrawn, thirst appeased by baths and enemata, and only medicines given in the fluid form.

Ellis, G.—*On Rennet Wine.* Med. T. & Gaz., July 19th.

Ellis states that having been disappointed in the use of pepsine, he devised the following preparation, which he finds extremely serviceable. He cuts up the fresh stomach of a calf into small pieces, which he puts into a bottle of good sherry, and leaves it corked for three weeks, at the end of which time it is fit for use. The dose is ʒj in a wineglass of water immediately after meals. This will solidify in one to two minutes eight or ten ounces of milk. The stomach is to be wiped lightly with a dry napkin, taking care to remove as little of the clean mucus as possible.

Frémy.—*On the Therapeutical Use of Malt.* Monit. des Sc. Méd., Dec. 1861. Brit. & For. Med.-Ch. Rev., July 1862.

The solution of malt after macerating one hour in water at 167° F., contains gluten in a soluble state. To the presence of this albuminised body the German physicians attribute the successful results they have observed in certain catarrhal affections of the bronchial mucous membrane, and in the different symptoms of dyspepsia. Frémy, after a fair trial of it, reports favourably of its employment in phthisis, chronic bronchitis, and dyspepsia. The malt he employed was sent to him from Baruth, near Berlin, and is very rich in diastase; it also contains more lupulin than Parisian malt.

Endemic Prevalence of Intestinal Worms. Bull. Génér. de Thérap., Dec. 1861. Brit. Med. J., March 8th.

The predisposition to intestinal worms, and the influence exerted thereby on certain diseases of children, vary much in different localities. Thus, while disorders from worms are so rare in Paris that many physicians deny their existence, they are remarkably severe in the south and west of France. The verminous diathesis is indicated by a pale puffy face, a vacant look, dilated pupils, pallid mucous membranes, and engorged cervical glands; the abdomen in such children is prominent, digestion is difficult, constipation and diarrhœa alternate, and the intellect is ill-developed.

Ramskill; A. Clark.—*On Podophyllin.* Med. T. and Gaz., Jan. 4th.

Ramskill praises this drug as the most powerful cholagogue known. He gives half a grain with as much extr. cannabis ind. every six or eight hours. Combined with two or three grains of carbonate of soda, its action is rendered much milder. Clark gives half a grain with, or without ipecacuanha a quarter of a grain, in extr. taraxaci every morning at breakfast-time, to operate the next day. He states, that it is free from most of the objections that attach to ordinary laxatives. *v.*, for a fuller account of its properties, Lancet, Feb. 22nd, and March 15th.

Abbots, Smith, W.—*On the Employment of Santonine as a Vermifuge.* Med. T. and Gaz., March 8th.

Of fifty cases the prevailing entozoon was the ascaris oxyuris in twenty-eight, the tænia solium in seventeen, and the asc. lumbricoides in five. A cure was obtained in nineteen, fifteen were much relieved, nine somewhat improved, and seven not benefited. Most of the cases of tænia were in adults; of the ascarides, in children.

BRINTON and BLOOD.—Arch. of Med., No. x, 1862.

Both record cases in which the larvæ of "musca sarcophaga" were found alive in the fæces.

COLIN.—Gaz. Hebdomad., No. 8. Med. T. and Gaz., April 5th.

Advocates the use of pomegranate bark in tænia as an effectual and speedy remedy. He gives ℥ij in three portions (made into a decoction), at intervals of a quarter of an hour, fasting.

TROUSSEAU.—*On Constipation.* Med. T. and Gaz., April 5th.

Trousseau recommends, among other means, suppositories of cacao butter, soap, or honey hardened by boiling, small doses of belladonna, and smoking.

MARTIN, STAN.—Schmidt's Jahrb., vol. 113, p. 292.

Recommends a glass of chalybeate water as the best means of taking away the taste of cod-liver oil. It is to be swallowed immediately after the oil. The water is to be made by letting rusty nails lie in it.

GRANTHAM, J.—Brit. Med. J., June 7th.

Records a case of carcinoma of the stomach, in which paroxysms of violence, both mental and bodily, occurred after dinner and supper during seven years. They had increased so much as to cause fear that the patient would become a confirmed lunatic.

OPPOLZER.—*Diagnosis of Tumours of the Abdominal Walls.* Wiener Med. Wochenschr., Jan. 25th, Feb. 1st, 1862. Brit. Med. J., May 10th.

Oppolzer says that a tumour is seated in the abdominal walls, may be ascertained if it be moveable *en masse* with them; if it partake in all the movements communicated to the walls by the pressure of the finger or by respiration; if it can be circumscribed and its thickness measured by the finger. On the other hand, when the swelling is not connected with the abdominal walls, these can be raised freely over it, the integuments are not changed, and can be raised into folds, and deep inspiration renders the swelling indistinct. In cases of tumours of the viscera adhering to the walls, information is often afforded by the difference of the percussion-sound in ex- and in-spiration. Abscesses of various kinds and tumours are noticed, and directions given to aid their diagnosis.

FONSSAGRIVES and LEROY DE MERICOURT.—*On the Morbid Symptoms produced by the Poisonous Fishes of the Torrid Zone.* Ann. d'Hyg., Oct. 1861. Schmidt's Jahrb., vol. 113, p. 166.

These symptoms may be comprehended under the heads of gastro-intestinal irritation, and nervous depression. The latter are very various, consisting of strangling sensations, weakness of the lower limbs, and loss of voluntary power, convulsions, disturbance of vision, and dilatation of the pupil. These last longer than the irritation, eight or nine days. The female roe appears to be the most poisonous part.

BOUCHARDAT.—*On Fatty Diarrhœa attending Diabetes.* Bull. Gén. de Thérap., July 15th, 1861.

Bouchardat relates a case in which the urine of a previously diabetic patient had become normal both as to quantity and quality. A large amount of starchy food was taken, and still the patient became daily more weakened and emaciated. He had five or six stools in twenty-four hours, which were copious, black, and semi-solid. At the time when they were discharged a large quantity of oil floated upon them, and became solid in cooling. This discharge of fatty matter continued in spite of the removal as far as possible of all fat from the food. It was, however, reduced by lessening the amount of the fatty and starchy ingesta, and by directing regular and active exercise. The patient, however, died after a severe attack of diarrhœa. Bouchardat believes that this fatty diarrhœa attending diabetes results from the exaggerated transformation of the starchy materials into fat; and that it is only a transformation of glycosuria. In diabetes the sugar is carried off by the urine, in pimelorrhœa the fat is removed by the intestines. The symptoms in both forms of disease are the same, only they are more violent in pimelorrhœa than in diabetes.

ROSE, E.—*Experiments on the Action of Santonine and the Essential Oil of Semen-contra.* Ann. de Thérap., 1862, p. 177.

Santonine is not poisonous, it is nearly insoluble, and very destructive to lumbrici, most of it is evacuated with the fæces. The oil, on the contrary, is not a vermifuge, it is absorbed from the stomach and upper intestine, and in large doses it is poisonous. Rabbits are killed by ʒ ss in convulsions.

COUSENS, E.—Brit. Med. J., June 21st.

Records a case of incarcerated intus-susception in a child, æt. thirteen months, successfully treated by inflation. The attack came on quite suddenly while the child was quietly reposing in its mother's arms after taking the breast. It vomited an undigested meal of boiled bread, and immediately fell into deep syncope. There were severe tormina, but no diarrhœa, some blood-stained mucus was passed. The attack commenced at 10 a.m., and at 7 p.m. an horizontal tumour was detected in the situation of the right half of the transverse colon, and another vertical one extending upwards from the right iliac region. Dover's powder and stimulants were administered. The insufflation caused some distress and increase of syncope, but the horizontal tumour disappeared, and the vertical diminished notably. Recovery took place gradually; rigidity of the transverse colon was still evident at intervals on the third day.

REED, H. G., M.D.—*On some Affections of the Cæcal Portion of the*

Intestines, with Illustrative Cases. Trans. of Med.-Chir. Soc., vol. xlv.

The author recognises three conditions as capable of causing intestinal obstruction, viz., an excessive accumulation of the contents at some part of their course, some alteration of the intestinal coats themselves, and, lastly, some formation exterior to the intestine. The most reliable signs of lodgment or accumulation in the cæcum are, a local tumour with defined margins, painful on pressure, from which the pain seems to radiate, and which may depend on simple distention only, or upon inflammation in the tunics of the canal. If there is merely accumulation, the object is to unload the bowel by means of the warm hip-bath, aloetic pills combined with calomel, or extract of nux vomica. If inflammation is set up, calomel and opium are to be given, and perfect rest in the recumbent or prone position observed. Four illustrative cases are given, of which three recovered. In two, portions of intus-suscepted bowel were passed per anum.

WACHSMUTH, A.—*Ileus and Enterotomy.* Virchow's Archiv, vol. xxiii, p. 118.

Wachsmuth believes that invagination generally is caused by an extraordinary increase of the movements of the intestines, while some part at the same time is hindered from moving freely, either by internal adhesions, or by external pressure in a narrow abdomen. He records three cases; two were operated on and died, the third recovered without operation. Opium in full doses, he thinks, is decidedly beneficial in the treatment of invagination, but seems to be much inclined to adopt operative procedure, either that of Haken, by dividing the intestine at some part above the obstruction, and inserting the two ends into another part situated below: or that of Züngel, who makes only a small opening into the distended bowel, sufficient to evacuate flatus and fluid fæces. In Wachsmuth's cases an artificial anus was made, communicating with the small intestine; one died with peritonitis, the other apparently from asthenia.

RAYNAUD, MOR.—*On Purulent Infiltration of the Stomach-Walls.* Gaz.-hebd., viii, 32, 33, 1861. Schmidt's Jahrb., vol. 113, p. 41.

Raynaud gives two cases and cites nineteen others. The affection is far more frequent in males than in females, and especially in the mid-period of life. It may be located in the muscular coat; or form a circumscribed submucous deposit; or be more or less generally diffused through the wall. The circumscribed abscess is mostly chronic, and is probably one of the causes of the simple ulcer. Purulent infiltration developes itself in the course of general disorders of suppurative tendency.

FLÖGEL, JOS.—*Cancerous Metamorphosis of the whole Stomach.* Wien. Med. Halle, ii, 24, 1861. Schmidt's Jahrb., vol. 113, p. 46.

The stomach had such resisting walls that when cut into it did not collapse; the thickening depended on diffuse cancerous infiltration of the submucous tissue, the mucous membrane and the muscular were not destroyed. The patient died suddenly, having had no ailment till twenty-two days before death.

MARSH, M. M.—Amer. Med. T., March 8th.

Records a case of cirrhosis of the liver occurring in a strictly temperate male who enjoyed uniformly good health, except a slight chronic diarrhœa, dating from a mild typhoid fever two years before his death. He was uncommonly active, and engaged in violent athletic exercise shortly before he was attacked with hæmatemesis, which recurred until he died. The liver scarcely presented anywhere three lines of normal structure between its nodules, yet the gall-bladder was filled with apparently healthy bile. The spleen was very much enlarged, and was double. The vasa brevia were replaced by two large vessels, admitting the thumb. The aorta was softened throughout its whole extent, but was not atheromatous. The stomach appeared quite healthy, except a rupture of the muscular and mucous coats opposite the insertion of the immense vasa brevia.

MARTEN.—Virchow's Archiv, vol. xxiii, p. 181.

Records a case of suppurative peritonitis, in which the pus escaped from an opening in the umbilicus, and continued to flow about a month. The patient, a girl aged ten years, recovered completely.

BÉHIER.—*On the Treatment of Peritonitis by the continuous application of Cold to the Abdomen.* L'Union Méd., April 3rd, 1862. Brit. and For. Med.-Ch. Rev., July 1862.

Béhier employs caoutchouc bags filled with fragments of ice, and renewed every two hours. This application speedily removes the pain, and produces no bad symptoms, interfering neither with the lochia nor the milk. Of 801 confinements ice has been applied in 355; the symptoms were threatening, however, only in 68, and 39 died.

ALBERS.—Deutsche Klinik. 30, 1862. Schmidt's Jahrb., vol. 116, p. 308.

Describes a form of circumscribed peritonitis occurring in young persons. It tends to suppurate in its middle, and the pus sometimes spontaneously makes its way outwards. Vigorous antiphlogistic treatment is essential at the outset—leeches, mercurial inunction, purgatives, and diaphoretics. After the formation of a tumour, a pea-issue is to be made and kept open, until it is resorbed.

MISCHEL.—Varges Ztschr. N.F.I. 5, 1862. Schmidt's Jahrb., vol. 116, p. 308.

Founds the diagnosis between apparent and actual intestinal perforation on the painlessness and less uniform distention of the abdomen in the first, and on the less amount of compression of the thoracic organs.

BULKLEY, H. D.—Amer. Med. T., Feb, 1st.

Records four cases of chronic dysentery and diarrhœa treated successfully by ten grain doses of ipecacuan, repeated once or twice with a farinaceous and gelatinous diet, excluding milk.

Barrallier.—*Treatment of Dysentery.* Ann. de Thérap., 1862, p. 193.

Barrallier treats slight cases with pot. tart. sodæ ʒij in water, *bis die*; cases of medium severity he treats with manna dissolved in whey, ʒij ss ad ℥viij daily, and occasionally a belladonna ointment. In the severest instances he uses an infusion of ipecacuan, ʒij ss ad ℥v daily, which causes the first three days vomiting and copious sweating. If the vomiting continues, he resorts to calomel in place of the ipecacuan, giving ten to fifteen grains daily for four days, and when the stools have become simply diarrhœal, terminating the treatment by mannized whey.

Duclos.—*On the use of Nitrate of Silver in Acute Dysentery.*—Bullet. Génér. de Thér., Aug. 15th, 1861. Brit. and For. Med.-Ch. Rev., July, 1862.

Duclos recommends administering enemata of this salt night and morning, each containing about four grains in five ounces of water. The injection is to be given immediately after an evacuation, so as to come in contact with the diseased membrane, and is to be retained from four to ten minutes, a little opium being added if necessary. The treatment is equally efficacious in all forms of dysentery and at any age. In certain cases it seems to have an abortive action on the disease.

Blacklock.—*Cases of Acute Dysentery treated by Large Doses of Ipecacuanha.* Madras Q. J. of Med. Sc., No. 4, p. 256. Brit. and For. Med.-Ch. Rev., July, 1862.

Ipecacuanha is said to be of more signal service than any other drug, enabling the practitioner to dispense with blood-letting and other means, which are, to say the least, very unsatisfactory in their consequences. It seems to be a general depurator and promoter of secretion, occasioning, as it does at first, a rapid formation of secretion in the skin, kidneys, fæcal glands and liver; it prevents undue work being thrown on the liver, and any overflow of bile by which the intestines would be irritated. In the later stages tr. ferri muriatis, with or without nitric acid, is of excellent service; and also in fever of a typhoid type, commencing without local complication, but presenting ilio-cæcal gurgling with the prostration and brown flush accompanying this infiltration.

Gayton, W.—Med. T. and Gaz., Sept. 27.

Records a case of severe chronic dysentery of eighteen months' duration which was cured by ipecacuan. Lead, however, was given at the same time.

Chassaignac.—J. de Med. de Chir. Pratiq., vol. xxxiii, p. 396.

Contends that so far from considering phthisis as a contra-indication for the operative cure of fistula *in ano*, it is an additional and most imperative reason for it. MM. Jobert de Lamballe and Nélaton are of the same opinion regarding the fistula as a cause of debility.

SECRETORY SYSTEM.

Cockle, J.—*On Cystico-cutaneous Fistula.* Med. T. and Gaz., May 10th.

Cockle records a case of this occurrence, seventeen calculi of cholesterine and green matter having escaped through an opening formed in inflamed skin. No jaundice occurred, but there was violent pain in the right side and sickness, which abated after a day or two. The escape of the calculi took place in less than a week. The total blockade of the cystic duct is characterised by sudden distention of the gall-bladder, combined with the supervention of hepatic colic without jaundice. Cockle gives a good account of the literature of the subject.

Abeille.—Gaz. des Hôpit. Lond. Med. Rev., May.

Found the continuous current of use in one case in promoting the discharge of a gall-stone as large as a pigeon's egg, which had got impacted in the duct, and had occasioned several attacks of hepatic colic.

Harley, G.—*On Jaundice, its Pathology and Treatment.*—Med.-Chir. Soc. Proc., vol. iv. p. 111.

Harley ranks all varieties of jaundice under two heads, viz., jaundice from obstruction, and jaundice from suppression. He points out a means of diagnosing these states by the examination of the urine, which in cases of obstruction contains biliary ingredients generated in the liver itself, and in cases of suppression those only which exist preformed in the blood. A simple mode of distinguishing the two conditions is to add to about ʒij of urine, ʒ ss of strong SO_3, and a piece of loaf-sugar the size of a pea. If at the line of contact of the two liquids a scarlet or purple colour is produced it proves that the acids of the bile are present, and the case may consequently be put down as one of jaundice from obstruction. On the other hand, if there is merely a browning of the sugar, the case is in all probability one of suppression. The former condition, however, may merge into the latter. Tyrosine and leucine Harley has found in the urine of chronic as well as of acute atrophy, and their presence may aid therefore in the diagnosis. Benzoic acid is specially recommended in jaundice from suppression, and inspissated bile in that arising from obstruction. It is desirable that the bile should be given at the end of stomach digestion, so that it may act on the chyme only and not interfere with digestion. Harley administers it in capsules which are not dissolved till they get into the duodenum.

Leptandrin (Lancet, Aug. 30th,) is a black shiny powder derived from the rhizome of an American plant. Its effect is gently to excite the liver, and promote the secretion of bile without producing the least irritation of the bowels. It also acts as a tonic to the stomach, improving the digestion. Its dose is from half a grain to two grains three or four times daily. Iridin in doses of two to five grains is a remedy of a similar kind, but more aperient.

Mettenheimer.—*On Icterus Gravis.* Memorab. a .d. Praxis, vii, 1862. Schmidt's Jahrb., vol. 115, p. 303.

Mettenheimer relates seven cases, to which he appends the following remarks:—The nervous symptoms of icterus gravis may be divided into two groups; those of one resemble the phenomena of typhus, pyæmia, and other blood diseases, and are characterised by delirium, restlessness, and twitching of the muscles. They are absent in acute yellow atrophy, but are present in cases of mechanical arrest of bile, and in forms of icterus gravis combined with other chronic and acute diseases, as cirrhosis, alcoholism, and acute rheumatism. They end with increasing frequency of the pulse and temperature of the body. The other group is peculiar to acute atrophy, especially to the form which runs a rapid stormy course. The delirium in these cases is maniacal, but alternates often abruptly with coma. The pulse also often varies, and is even quiet, and the body cool. Mettenheimer suggests that the cause of the difference in the phenomena may possibly depend on the circumstance whether or not the brain and the nerve centres generally take part in the icteric imbibition or not.

Wagner, E.—*Granular Induration of the Liver.* Arch. d. Heilk. iii, 5, 1862. Schmidt's Jahrb., vol. 116, p. 59.

Wagner determines the induration of cirrhosis to depend on the formation of a fibroid and homogeneous tissue, the latter graduating into the former. He finds the change to commence almost always in the periphery of the lobules, and not in the interlobular tissue. He believes the capillaries to be especially affected, their nuclei multiplying and their tubes contracting and becoming fibres. In twelve cases, the extremes of age were thirty and fifty-six years; all the patients were males, and ten of them habitual brandy-drinkers. The disease was always primary. An icteric tinge was noticed in five cases, and in four of these it was very slight, and attended with a peculiar change in the muscular structure of the heart. The spleen was enlarged in all the cases, in some very much; in one it contained abscesses. Chronic, gastric, and intestinal catarrh was noticed in eight cases; in the remaining four there were symptoms of this condition during life; in two there were hæmorrhagic erosions of the gastric mucous membrane. The kidneys were affected in eleven of the twelve cases, but how, is not particularly stated. More or less considerable traces of chronic inflammation of the dura mater were observed in five of the nine autopsies. Tuberculosis was met with as an accidental complication in some cases.

Brinton, W.—Lancet, Dec. 13th.

Records a case of hydatid cyst of the liver, which was cured by a single tapping, with subsequent bandaging, local application of ice, and administration of opium. For some days there was considerable prostration and tendency to sickness, which gradually subsided, and in nine weeks the patient was discharged cured. She was eighteen years of age, and the tumour had existed about six years. Brinton does not by any means advise operating indiscriminately. When the cyst is stationary, or shrinking and hardening, where it is immediately threatening rupture into the chest or bowel, where it does not cause much pain or disablement, and, above all, where the patient is old, unhealthy, or has actually diseased organs, he discountenances operating.

Martin, J. R., C.B., F.R.S.—Lancet, Dec. 20th.

Remarks on the great frequency of hepatic disease in the sultry plains of India, and states that the severity of acute hepatitis is such that the chance of death is greater from one such attack than from thirteen of fever of the various ordinary forms. European children, however, enjoy a marked exemption from this disease, which depends on the absence in them of alcoholic stimulation, of repletion with animal food, and of indolent habits.

Cockle.—*On some Points connected with the Past and Present History of Diabetes, and on a Less Common Form of Death in this Disease.* Lancet, Jan. 11th.

Cockle is inclined to favour the hypothesis, that a peculiar virus or ferment exists in the blood, and causes the excessive development of sugar. He does not accept the view that irritation of the medulla oblongata is essentially concerned in the production of the phenomena. He records three cases of diabetes, in which intense pain in some part, attended with collapse, set in shortly before death.

Richardson, R. W.—*Lectures on Diabetes.* Med. T. and Gaz., March 8th, May 10th.

Richardson, in support of the view that the disease depends upon disordered action of the liver secondary to lesion of the nervous system, refers to two cases under his observation. In the first of these the patient found his symptoms always much aggravated when in his trade of house-painting he had to look constantly upwards with his head thrown back as in painting a ceiling. In the other convulsions and symptoms of meningitis had existed during life, and after death a calcareous growth was found pressing upon the pons Varolii, and an abscess in the posterior cerebral lobes.

Tardieu.—Lond. Med. Gaz., Feb. 1862.

Records a case of diabetes connected with lesion of the fourth ventricle. Symptoms of paralysis of the left side existed for three months, but the diabetes persisted until death from phthisis at the end of two years. The medulla oblongata in the vicinity of the fourth ventricle was injected, and of a dark grey colour.

Hughes, J., M.D.—*Cases of Diabetes Mellitus; Saccharine Treatment.* Dublin Q. J. of Med. Sc., May, 1862.

Hughes relates four cases in which this plan was tried for a longer or shorter period. It produced no permanent improvement in any, but increased the saccharine quality of the urine, and did not alter its specific gravity. The daily amount was considerably decreased, but Hughes ascribes this result to the patient's controlling his desire for fluids. Two cases gained somewhat in weight. All that can be said for the proceeding is, that it is vastly agreeable to the patient, and is not positively injurious.

Kunkler, E. A.—*Case of Diabetes exhibiting Remarkable Phenomena.* L'Union Méd., July 29th, 1861. Brit. and For. Med.-Chir. Rev., July, 1862.

The patient, æt. 26, had had diabetes seven months, and in spite of animal diet and various remedies, got worse. There were several tender points at the upper part of the dorsal region of the spine, which disappeared on cupping, the disease, however, being unchanged. Immediately after a blister to the neck, the presence of sugar and the unusual excretion of the urine ceased as if by enchantment. By a repetition of the blisters, the disease permanently disappeared, in spite of a varied diet. The reporter refers to other cases where the disease coexisted with various morbid conditions of the spinal cord or cerebellum.

Pavy, F. W., M.D.—*Almond Food as a Substitute for Bread in Diabetes.* Guy's Hosp. Reports, vol. viii.

The author finds that ground almond powder made into biscuits, rusks, and bread with eggs, forms a very good substitute for ordinary bread. The almond contains six per cent. of sugar and three of gum, which are easily separated by water. Patients taking this food experience no increase in the quantity and specific gravity of the urine over that which occurred under a strictly animal regimen. The maker is Mr. Hill, 60, Bishopsgate Street, London. Pavy refers to one case as bearing on the pathology of diabetes, where a certain amount of vegetable food (potatoes, bread, beer) could be taken without causing the urine to be saccharine, but if this was exceeded sugar appeared. A certain amount only of saccharine matter could be assimilated.

Roberts, W.—*On Qualitative and Quantitative Sugar-Testing in the Urine.* Lancet, May 17th, 24th.

Roberts draws a broad distinction between the existence of sugar in the urine in proportions sensible to direct testing, and its existence in such minute quantity that elaborate analytical processes are required for its detection. He is much inclined to believe that in the latter case the sugar detected is really an educt of the analysis, and produced by conversion of some amyloid extractive. The growth of torulæ, Moore's test, and the fermentation test, are considered as either unreliable, or not sufficiently delicate. Moore's test does not answer well with a less quantity of sugar than one-and-a-half grain to ℥j; moreover, if the liquor potassæ be contaminated with lead, which it easily extracts from ordinary white glass, the test causes a considerable darkening with albuminous urines, though they contain no sugar. Fehling's copper solution is the test he prefers, consisting of sulphate of copper, gr. viij; tartrate of potash, ʒss; liquor potassæ, ℥j. When the natural ingredients of the urine are present only in small quantity, the reaction by the reduction of the copper to the yellow or red suboxide is very distinct and delicate, but when the reverse is the case, as in the early period of diabetes, in the stage of convalescence, and not unfrequently towards the fatal close, the detection of the sugar is much more difficult. The proceeding he recommends is to boil first some of the test solution, and then add to it some drops of the suspected urine. If sugar be abundant, a thick yellowish opacity and deposit of yellow suboxide are produced (and this changes to a brick-red at once if the blue colour of the test remains dominant). If no such reaction ensue, go on adding urine, until a quantity equal to the bulk of the test employed has been poured in; heat again to ebullition; and no change occurring, set aside without further boiling. If no milkiness is produced as the mixture cools, the urine may be confidently pronounced free from sugar, for no quantity above one-fortieth of a grain can escape such a search, and any quantity below that is devoid of clinical significance. Roberts describes in detail the method of estimating the quantity of sugar in the urine by volumetrical analysis, employing Fehling's solution, and also that proposed by himself, in which the amount is estimated by the loss of density which takes place during fermentation. The latter is noticed in the Year-Book for 1860, p. 106.

HARVEY, E. R., M.A., M.B.—*The Influence of Mercury upon the Urine.* Brit. and For. Med.-Chir. Rev., April, 1862.

Harvey finds that in dogs, while they retain their health, mercury exercises no influence upon the amount of urine or urea, but that the phosphates and entire ash are always in a very remarkable degree diminished. The effect of mercury upon the urine is therefore to diminish the secretion of the salts.

FULLER, H. W., M.D.—*Clinical Lectures on Gout, Rheumatism, Rheumatic Gout, and Sciatica.* Lancet, Dec. 13th, 20th, 27th.

Fuller in noticing the two forms of tonic and atonic gout proposes to regard the first as gout arising from an excessive formation of uric acid, and gout arising from defective excretion of uric acid. He relates examples of these states, and of an intermediate one, and details the treatment which is beneficial. He has no fear of colchicum when it is used judiciously, and states as a general rule that the efficacy of the remedy and the safety of its administration appear to be proportioned to the freedom with which the kidneys act. In healthy persons, who are passing urine of high specific gravity and loaded with lithates, its administration is safe and its efficacy conspicuous; whereas in weakly persons whose kidneys are damaged, and who are passing tolerably clear urine of low specific gravity, its action is unsatisfactory, often depressing, and sometimes dangerous. In moderate doses, Fuller believes that colchicum exercises a specific influence in checking the formation of lithic acid. In sthenic gout the diet at first must be very restricted, but as the symptoms subside may be generous. In asthenic gout the diet must be tolerably supporting at the outset, but must be very carefully regulated in convalescence. With regard to rheumatic fever Fuller declares that the success of full alkaline treatment in his hands has been marvellous, and that not one patient under his care whose heart was free from mischief on admission, "has left the hospital with that organ damaged." He contrasts the results of treatment before this plan was adopted, viz., from Jan. 1st, 1845, to May 1st, 1848, with his present results. During the above period among 246 cases of acute rheumatism admitted there occurred 12 instances of pericarditis alone, 27 of endo-pericarditis, and 75 of endocarditis, so that the heart was more or less damaged in 114 cases out of the whole number, *i.e.*, in one out of every 2·1 cases. Fuller's own cases amount to 194, and in no single instance has any heart affection occurred after the patient has been under treatment for twenty-four hours. Soda is as effectual as potash, and a combination of the two seems to have advantages. Ammonia on the other hand does not act as an alkali on the system, does not render the urine alkaline, and will not cure acute rheumatism. Fuller, however, always prescribes it in conjunction with the alkalies, on account of its great power of maintaining the fibrine of the blood in solution. The acetate is the preparation he administers. He further points out that albuminuria and systolic murmurs at the apex of the heart will both disappear under alkaline treatment, and that therefore if the symptoms of endocarditis are not urgent, we should not be over-hasty in resorting to active measures. With regard to inflammatory affection of the heart occurring in the fever, Fuller dissents from those who think the employment of mercury injurious. He gives it, however, well guarded with opium, and supports the strength meanwhile with nutritives, wine, and bark if necessary. Mercury, he states, is serviceable in proportion as the exudation is plastic and readily organizable, it is useless or even mischievous, when the exudation consists of curdy, flocculent, ill-concocted lymph of low vitality. Delirium and convulsive disorder, Fuller regards not as the result of cerebral or spinal inflammation, or even as essentially connected with cardiac inflammation, but as induced by vitiated blood acting upon a nervous system in a state of exalted sensibility. In these cases opium and stimulants are our sheetanchor, provided no local inflammation is going on, and even if there be, it should be dealt with so as to cause as little depression as possible; calomel, blisters, and turpentine fomentations are the best remedies.

ROBERTS, W., M.D.—*On the Solvent Power of Strong and Weak Solutions of the Alkaline Carbonates on Uric Acid Calculi.* Arch. of Med. No. x., 1862.

Roberts found, as Gay, Lussac, and Pelouze had found before, that strong solutions containing 273 to 546 grains of the alkali to the pint had but a very weak solvent action. He placed fragments of calculi weighing from 40 to 112 grains in 10-ounce phials and passed over them a stream of solutions of alkali of various strengths at blood-heat. The experiments were continued day and night, and the daily flow of solvent varied from six to fifteen pints. With 30 grains of sod. carb. to Oj the stone was dissolved clean, at a daily loss of 10·3 grains. With 120 grains per pint there was no loss, the stone was covered with a dense white coat of bi-urate. With a solution of pot. carb. gr. x. ad Oj the stone was dissolved clean at a daily loss of 6·5 grains; with 30 grains, the daily loss was 11·9 grains. With 120 or 240 grains to the pint there was no loss of weight, the stone was coated with bi-urate.

LEWALD, G.—*Researches on the Excretion of Drugs from the Organism, especially on the Elimination of the Mineral and Vegetable Astringents through the Kidneys, and their influence on the Functions of these Glands.*—Abhandl. d. schles. ges. f. vaterl. Kult, 1861. Schmidt's Jahrb., vol. 113, p. 28.

Lewald finds that lead given as acetate is separated by the kidneys in combination with albumen. If, however, the urine contain no albumen the lead is not eliminated. When seven grammes of acetate of lead were taken in six days the urine still contained lead eighty-four hours after the last dose, but none could be detected 112 hours after. Lead materially diminishes the amount of albumen in the urine; tannin does the same to a less extent. Lead also increases the amount of urine, probably by its astringent action upon the renal vessels, and causes the obstructing fibrinous casts to be washed out of the tubes.

DEBOUT, E.—*Case of Nephritis Calculosa with a Single Kidney.*—Bull. de Thér., May, 1861. Schmidt's Jahrb., vol. 113, p. 176.

In cases such as the one related, there is suppression of urine, severe disorder of the circulation and of the stomach, and very grave phenomena of uræmic poisoning. Copious bleeding is the means most likely to relieve the renal inflammation, and to lessen the amount of the poisonous excreta retained in the system.

PERCY.—*On Colchicina.*—Amer. Med. T., April 5th.

Percy gave to a male suffering with an acute attack of gout gr. $\frac{1}{45}$th thrice at four hour intervals. It produced no effect upon the bowels, but the urine was largely increased in quantity, and contained a very large amount of urate of ammonia and mucus. The dose was now increased to $\frac{1}{30}$th, of which he took three. The pulse now fell in frequency twenty-eight beats, the urine continued to flow very freely, the bowels were moved several times, the stools being of an ochre colour, very frothy, and with a strong urinous smell. Much flatus was also passed. The paroxysm was completely arrested. The urine that was passed before the administration of colchicina was scanty, dark-coloured, of specific gravity 1021, and deposited much uric acid on cooling. That passed after the third dose of colchicina was copious, much paler, of specific gravity 1030, and contained a very large quantity of urate of ammonia and mucus. In another case seven doses produced similar effects, viz., increased secretion of urine, a higher specific gravity, and a copious deposit of uric acid and mucus. Percy examined on one occasion the fæces of a person under the influence of colchicum, and found them to contain a large amount of uric acid.

CARTER, H. V., M.D.—*On the connection between a Local Affection of the Lymphatic System and Chylous Urine; with Remarks on the Pathology of the Disease.* Trans. of Med.-Chir. Soc., vol. xlv.

Carter records cases in which a milky chyle-like fluid was discharged from the skin of the thigh or scrotum, in one of the cases the urine being occasionally chylous. He believes that chylous urine depends on some leak of the lacteals taking place into the urinary channels, so that the chyle is directly mingled with the urine.

WATERS, A. J. H., M.D.—*On a Case of Chylous Urine.* Transact. of Med.-Chir. Soc., vol. xlv.

The patient was a native of Bermuda, æt. 23. The urine at first was milky, bloody, clotted, and highly albuminous. Its water, fat, and mucus were in excess, and the urea, extractives, and alkaline and earthy salts were deficient. Quinine and iron were unavailing, but gallic acid, carried to the amount of 135 grains daily, completely arrested the disorder, the urine remaining perfectly healthy for five weeks. A vapour-bath was also given for some time every night, and the author thinks that it was highly beneficial. He regards a relaxed condition of the renal capillaries as the main pathological feature of the disease.

DUTT, G. C.—Lancet, July 24th.

Records the cure of a case of chylous urine by Tr. Ferri Mur., after gallic acid, in nine grain doses daily, had failed.

WARBURTON BEGBIE, J.—*On Chylous Urine.* Edin. Med. J., August, 1862.

In this case rest operated very strongly in diminishing the amount of fat and albumen in the urine, while a brisk walk, or even moving about in the ward, as powerfully increased both. Gallic acid had no effect on the urine, but the salts of iron, especially the persesquinitrate, were more serviceable. The chylous offlow was increased after every meal, but much more after such ingesta as caused a feeling of indigestion.

LIONEL BEALE.—"*Dumb-bells*" *of Oxalate of Lime from a Clinical Point of View.* Med. T. and Gaz., Jan. 4th.

Beale thinks that dumb-bells very generally form the true nuclei of uric acid and oxalate of lime calculi, having found them in ten specimens of small uric acid calculi. He advises to procure copious diuresis once a week by draughts of Vichy or other alkaline waters, by which means the crystals are washed out of the renal tubes. The general health must also be attended to, a proper hygiene being enforced and tonics administered.

STIFT, H.—*The New Sodium-Lithium Spring at Weilbach Baths.* Deutsche Klinik., March 29th, April 5th.

This spring contains 0·06 of lithium in 1000 parts, and a considerable quantity of carb. of soda. Ten cases are related of its beneficial effects, and it is said in general (1) to promote the passage of urinary concretions; (2) To procure the diminution of the quantity of uric acid in the urine, and the disappearance of the sediment of urates; (3) To remove existing gouty affections of the joints.

WILLEMIN.—*On Hepatic Colic and its Treatment by the Waters of Vichy.* Gaz. Med., July 12th. Lond. Med. Rev., Aug.

The most frequent complication of biliary lithiasis is gout or uric acid gravel. The only primary causes of the diathesis which Willemin knows of, are inheritance and individual predisposition; the occasional causes which hasten the occurrence of the first attacks are a sedentary life (especially when this is assumed after active habits), certain mental emotions, and certain acute diseases, as typhoid fever and pneumonia. Willemin has the utmost confidence in treatment by the Vichy water, sufficiently prolonged; the attacks are diminished in number, or put an end to; the water has a direct action which opposes the formation of concretions.

STADION, B. H.—*The Physiological Action of Digitalin, with especial regard to its Influence on the Quantity and Composition of the Urine.* Prag. Vjhrschr., lxxiv., p. 97, 1862. Schmidt's Jahrb., vol. 115, p. 287.

Stadion finds, by experiments on himself, that digitalin diminishes the water, urea, chloride of sodium, phosphates and sulphates of the urine. The amount of uric acid increases, the degree of acidity remains unchanged, the specific gravity falls. The body rapidly emaciates, and the sexual power is much diminished or quite abolished. Digitalin produces a violent catarrhal affection of the nose, but affects the intestinal canal less than digitalis. Its power is thirty times as great as that of the latter.

EADE, P., M.D.—*On Diabetes Insipidus.* Arch. of Med., No. x, 1862.

Eade records the symptoms of three cases he has observed, and the post-mortem examination of one fatal. The kidneys were greatly wasted, the cortical portions very thin, and scarcely to be distinguished from the pyramidal. Many of the cortical tubes were very narrow and much wasted, while others were twice the natural diameter. The epithelial cells were also smaller as well as more numerous than in health, and the tubes appeared to be distended in many places by their accumulation. The supra-renal bodies were greatly diseased; both converted into flaccid cysts, capable of containing each some half-ounce of fluid, with thin walls, having a bile-coloured granular appearance. No other important change. Eade suggests the possibility of the diabetes being dependent on the disease of the capsules.

MEISSNER, H.—*On the Connexion of Bronzed Skin and Supra-Renal Capsule Disease.* Schmidt's Jahrb., vol. 113, p. 46.

Meissner quotes from various authors numerous observations bearing on this subject, and deduces the following conclusions:—(1) In a series of cases, bronzed skin and supra-renal disease are met with together, and no other morbid change has been discovered on post-mortem examination. (2) Supra-renal disease often occurs without bronzed skin, and (3) the converse. (4) There are pigment deposits depending on quite different causes, even though supra-renal disease may happen to be present. And (5) in animals the supra-renal capsules may be extirpated with impunity, without the skin becoming pigmented, or speedy death ensuing. Wilks does not regard the bronzing as the essential sign of Addison's disease, but rather the anæmia and muscular debility. Buhl, on the other hand, thinks the supra-renal disease non-essential. It is only a part (which may be absent) of a general disease, consisting in the deposit of miliary tubercle in the lungs, spleen, liver, and lymphatic glands. Schmidt believes the fundamental part of Addison's disease to consist in an atrophy of the sympathetic nerves, which has been demonstrated in two cases. If the upper abdominal portion of the sympathetic be affected, supplying the capsules, supra-renal disease and bronzed skin will coexist; if the capsules are diseased from other causes there will be no bronze skin; and if the bronzed skin is occasioned by the atrophy of other portions of the sympathetic, there need be no supra-renal disease.

WILKS, S., M.D.—*On Disease of the Supra-Renal Capsules, or Morbus Addisonii.* Guy's Hosp. Reports, vol. viii.

Wilks contends for the correctness of Addison's views, with the modification that discoloration of the surface may occasionally be absent, and that, when present, it is characterized by a general change of hue over the whole body, and also that the morbid change in the capsules is of a peculiar character. If asthenia without any known cause, and such discoloration as has been indicated have existed for any period, disease of the capsules may be very safely predicated. A series of twenty-five cases are given, observed by Wilks or by others; in only one of which was there a total absence of pigmentation of the skin. In four others the discoloration did not attract notice. Of seventeen cases of later date, where the skin was very dark, a correct diagnosis was made in all but one. The conclusion drawn from vivisections, that the supra-renal capsules are not essential to life, is confirmed by cases of disease, in which the patients have been able to work up to near the time of death, although the organs in question must have been destroyed for a long period. Epigastric pain passing to between the shoulders was not mentioned by Addison, but has been observed in several cases. In one or two cases an odour like that exhaled from a negro's skin has been noticed. The disease seems to affect the young more particularly; the average of the ages recorded is thirty years. Of the twenty-five cases, nineteen were males, and six females. In most of the cases there was no evidence whatever of the existence of tubercle in the lungs, and in a few only a little scattered deposit at the apices. In general tuberculosis, no such affection of the capsules has been found as occurs in Addison's disease. In three of Wilks' cases there was caries of the spine, to which he thinks the capsule-disease was secondary. Brunner's, and the solitary glands, have often been found enlarged.

TRAUBE.—*On so-called Uræmic Attacks.* Med. Centr. Ztg. xxx, 103, 1861. Schmidt's Jahrb., vol. 114, p. 308.

Traube ascribes these attacks to cerebral anæmia and œdema. The latter results from the drain of albumen lessening the density of the liquor sanguinis, which thus becomes more prone to transude, especially when the tension of the arteries is increased by hypertrophy of the heart. He states that the attacks do not occur when the heart is not hypertrophied; that they are always preceded by anæmia and pallor, and often by diminution of the quantity of urine. In fatal cases the brain is always found anæmic and œdematous, and often there are effusions of blood in it or its membranes. Kussmaul's and Tenner's experiments prove that convulsions and coma may result from cerebral anæmia. Saturnine intoxication produces attacks identical with the uræmic, and in these also the brain is found swollen and œdematous.

CUTANEOUS SYSTEM.

Clemens, F. W.—*Contribution to our Knowledge of the Physiological Action of Baths.* Med. Centr. Ztg., xxx, 1861. Schmidt's Jahrb., vol. 113, p. 161.

Clemens found that baths, whether simple or medicated, always produce their greatest effect on the urine in the first fifteen to twenty minutes. During the same period, therefore, absorption, if it occurs, must go on most rapidly, but he was unable to detect iron, or pot. iod., or any other substance added to the baths, in the urine. He is obliged, therefore, to explain the diuretic effect by an action on the nerves of the skin. Experiments with a single finger dipped in solution of chl. sodium prove very neatly that the skin does absorb, and subsequently throws off again the absorbed substance. Hydr. bichlorid. is absorbed very quickly. If the finger be held seven minutes in a solution of ʒij ad aq. dist. ℥iii ss, it absorbs so much of the salt that when it is washed clean and placed in a wineglass of water to which chloride of tin is added, the liquid becomes almost quite black.

Inman, T.—*On Night-sweats.* Lond. Med. Rev., June 1862.

Inman argues that night-sweats are the result of exhaustion, and directs, to prevent them, that prolonged sleep is to be prevented, and food given during the night.

Hunter, C.—*On the Physiological Action of the Turkish Bath.* Lancet, June 14th.

Hunter finds that these baths produce a stimulating effect on the circulation, if the temperature is not too high, above a certain varying limit they depress it. Used in moderation and in suitable cases, the bath is a valuable remedy in removing local congestions, and setting up a new and healthy action of the system. It may, however, be injurious where the circulating organs are diseased.

Beneke.—*On the Action of the Thermæ of Nauheim.* Schmidt's Jahrb., vol. 115, p. 101.

Beneke distinguishes the local from the general action. The latter he believes to depend solely on the influence of the bath on the cutaneous nerves, and the secondary effects to consist in changes of tissue metamorphosis, the daily variations of which are greatly increased, as well as the weight of the body. The beneficial effect of the bath consists, therefore, in an elevation of depressed nerve power. For this result, however, the stimulus of the bath must be duly proportioned to the individual: if it is too great the action is depressing, and the vital power and the bodily weight is lowered. Scrofulous disease, general debility, eczema, psoriasis, rheumatism, and gout are benefited by these baths.

Karner.—Ditto, p. 85.

Contends that the temperature of baths should be regulated not by the thermometer, but by the sensations of each individual. The action of the temperature is determined by the sum of the excitation of all the peripheral nerves, and its propagation to the nervous centres. It depends on the receptivity of the cutaneous nerves, the mode of life, and the condition of the individual, and on his being accustomed or not to the bath. The season of the year and the time of the day also affect its influence.

Borella.—Lond. Med. Rev., April.

Treats tinea capitis (favus) by the repeated application of powdered sugar of lead every three or five days. The cure occupies about three months, but is safe, being never followed by baldness.

Richter, H. E.—*Report of the most Recent Contributions to the Literature of Plica Polonica.* Schmidt's Jahrb., vol. 114, p. 98.

It appears that the hairs in these cases are in no respect different from ordinary hairs, the follicles have also been found normal. There is not the least evidence to show that there exists an endemic dyscrasia, hereditary tendency, or infecting power. No harm whatever comes of shaving off the mass. Various cases are given, with comments, and the general conclusion is, that there is no such material disease as plica polonica, but merely a local superstition, or delusive notion of the healthfulness and utility of neglecting the hair, and allowing it to get into a tangled mass. Sometimes it appears that this notion exists from the first, sometimes that a person having some chronic and grave disease, takes up the idea that it depends on a peculiar dyscrasia, from which he may be delivered by the development of this appendage; sometimes the possessor of such an one cuts it off, and then fancies that the first illness that befals him is owing to the loss of this "national palladium."

Decondé.—Ann. de Thérap., 1862, p. 125.

Treats favus in the same way as Borella by picking out the separate favous formations and applying neutral acetate of lead. He finds that the favous matter is gradually modified by the lead; it presents at first the perfect ramified tubes and sporules; after a month's treatment they are considerably altered, shrunken, and flattened; and, finally, they have all disappeared. The period requisite for carrying out the treatment is from three to four months, the applications being made every five or six days. **Huet** prefers an ointment containing carbonate of copper, gr. j ad ℈ij ss.

De Change.—Ann. de Thérap., 1862, p. 136.

Recommends applying poultices to the hands or feet by means of a large bladder in which the poultice and limb are placed and kept. The bladder can be steeped in hot water when the bread or meal gets cold.

Mollard.—*Cream of Sulphur Soap in Scabies.* Ann. de Thérap., 1862, p. 187.

It does not stain linen and has no smell. One thorough application is sufficient. Consists of olive oil soap ℥ij ss, pot. sulph. ʒxv, sod. sulph. ʒxv, sulph. precipit. ʒx, M.

GUYON.—*Leprosy removed by Change of Climate.* Bullet. Gen. de Thérap., May 30th, 1862. Brit. Med. J., Aug. 2nd.

Guyon records an instance in which after one child had died, two younger who presented traces of the same disease were removed from a tropical country to France. The disease was arrested and the offspring of these children is quite healthy. Guyon does not think that removal would avail when once the disease was fully developed.

FURNEAUX-JORDAN.—*On Fibro-Cellular Annulus of the Leg, with Cases.* Med. T. and Gaz. March 1st.

The disease appears as an annular enlargement surrounding the lower part of the leg above the malleoli. It is about three inches wide, and one inch thick at the centre, the margin being thinner, but tolerably defined. An enlargement possessing similar structural characters, of a form irregularly round at the circumference and convex on the surface, is found not uncommonly between the outer ankle and heel. It may exist alone or in conjunction with the supra-malleolar ring. Both varieties are soft, elastic, and free from pain or tenderness. The skin is perfectly healthy. In most cases the surface generally is cold and livid. The general health is not seriously impaired. Furneaux-Jordan believes the annulus to consist of connective tissue, and to result from a slow, slight, and formative inflammatory process. All the known cases have occurred in women, mostly in the young. The catamenical function is usually impaired.

HARDY.—*On the treatment of Psoriasis.* J. de Méd. et de Chir.-Pratiq., March, 1862. Edin. Med. J., April.

During the inflammatory stage of psoriasis Hardy prescribes emollient and alkaline baths, and laxative ptisans. In the second stage he administers arsenic, and at the end of this period, when the disease has become chronic and stationary, he has recourse further to ointments containing mercury, sulphur, or pitch. Huile de cade he uses, combined with glycerine and starch.

ROLLETT, E.—Wien, Med. Wochenschr. xii, 1862. Schmidt's Jahrb. vol. 116, p. 182.

Relates a case of pemphigus, in which the eruption appeared in a somewhat modified form, on the mucous surface of the lips, gums, cheeks, and palate, and on the nasal mucous membrane. The delicacy of the epithelium prevents the formation of bullæ, there appear instead shallow, red depressions.

BAZIN.—J. de Med. de Chir.-Pratiq. Dec. 1862.

Varies his treatment of eczema according to its special character. If it be scrofulous he gives iodide of iron and ol. morrh.; if it be herpetic he uses arseniate of iron or of ammonia; if arthritic he administers soda. Hop infusion is also to be taken by the scrofulous, and saponaria or fumitory by the arthritic and herpetic. Emollient applications are suitable in all kinds of eczema at the outset, and astringent in the later periods. Sulphate of iron ointment is useful in arthritic eczema, sulphurous baths in declining scrofulous eczema, saturnine or arsenical lotions, or calomel ointment in dartrous eczema.

ROCHARD, J.—*The Cochin-China Ulcer.* Arch. Gen., June 1862. Schmidt's Jahrb., vol. 116, p. 309.

This ulcer closely resembles the Yemen (*v.* Year-Book 1860, p. 250). It attacks only persons of enfeebled health, is usually single, very obstinate, penetrating to the tendons and bones, and scarcely to be cured except by removal from the malarious locality. The parts surrounding the ulcer are anæsthetic for a greater or less extent.

VON BÄRENSPRUNG.—*On Herpes, specially with reference to its connexion with Affections of the Nervous System.* Annalen der Charité Krankenhauses zu Berlin, vol. ix, part 2, p. 40.

The author details fifty-six cases, which he classifies according to the locality affected, showing that the eruption follows the course of certain nerves, which he particularly specifies. He determines, that the source of the inflammation is not from without, nor in the blood, but that it operates through the nerves, and, in fact, depends upon their abnormal irritation. He traces the seat of this irritation to the ganglia on the posterior roots of the spinal nerves, which give origin to trophic nerve-fibres running peripherally in the nerves, but not to the cord. Hence it arises that while the trophic irritation (the eruption) is always on one side, the neuralgia, which is so common, may be more extensive and symmetrical. The latter depends on communication of the irritation of the ganglion to the centripetal nerve-fibres of the posterior root proceeding to the cord. Cases are quoted, showing that a peripheric irritation of a nerve containing ganglion-fibres may cause a limited eruption of herpetic vesicles. Treatment must be expectant, but when much neuralgia exists blisters are of great service in the neighbourhood of the spine, and also the endermic use of morphia.

HERVEZ DE CHÉGOIN.—Union 8, 1861. Schmidt's Jahrb., vol. 116, p. 309.

Records an instance of the good effect of flying blisters in arresting Herpes zoster, and preventing the persistence of the distressing neuralgia. Cauterization with arg. nitr. he has not found successful.

CHAUSSIT.—Bull. de Thér., Sept., 1861.

Considers the pain of H. zoster as a very inconstant symptom, on which account it is difficult to determine the effect of remedies upon it. Flying blisters he also thinks are most useful. The eruption he would meddle with but little, and treat the complicating neuralgia according to its character.

FORGET.—Bull. de Thérap., Oct. 1861.

Finds that blisters do not hinder, but may even promote, the eruption of H. zoster, but they are one of the best means to get rid of the succeeding neuralgia.

Baudon.—Bull. de Thérap., July 1862.

Recommends smearing the affected part early with solution of chloride of iron mixed with laudanum.

Hebra.—*On the Continuous Application of Warm Baths to the Whole Surface in the Treatment of Skin Inflammations.* Allgem. Wiener. Med. Zeitung. Lond. Med. Rev., Jan. 1862.

From observation of the facility with which lesions of the mucous surfaces repair themselves, Hebra is satisfied that the one important element of cure in skin diseases is *maceration;* and that when this can be assiduously carried out by any means, the cutaneous surface will repair its lesions with equal facility to the mucous. He gives the details of three cases in which patients suffering with cutaneous lesions have been subjected to prolonged immersion in warm water, 88° to 99° F. The first was a case of obstinate psoriasis, who bore the treatment well during periods of twenty-four, thirty-six, and forty-eight hours, but did not improve notably. The experiments were spread over six weeks. The second was a case of severe burn, where the immersion was continued for twenty-one days continuously, and with the best effects. The third patient was the subject of a frightful and inveterate pemphigus, and was kept in the bath a hundred days with the best results. The pulse and respiration became less frequent, the appetite increased, the secretions were normal (except the urine, which seemed somewhat diminished), and the weight increased fourteen lbs. The animal heat increased as the frequency of the pulse declined, so that the temperature of the bath was lowered to 88° F.

Hardy.—Rev. de Thérapeut., March, 1862. Edin. Med. J., April.

Treats pityriasis by sulphurous baths, sulphur internally, and pomades of sulphur or nitric acid—*e. g.* sulphuris, gr. xv, vel acid. nitrici, ♏, xv, ad axungiæ ℥j, ♏. bis die utend. The diet to be plain.

Hunt, T.—*On the Diagnosis, Pathology, and Treatment of Lupus.* Brit. Med. J., Jan. 4th.

Hunt recognises only two distinct forms of lupus, viz., lupus exedens and lupus non-exedens, the hypertrophic and serpiginous varieties being but accidental deviations, and the erythematous being not lupus but syphilis. After describing the two above-mentioned forms, he lays down the following marks of diagnosis from other affections:—(1) In *syphilis* the edges of the sore are copper-coloured, red, or livid in lupus; in syphilis the health is generally broken, in lupus not; in syphilis destruction proceeds more rapidly than in lupus, and pursues a different course, advancing from the throat or palate outwards, while in lupus it proceeds from the nose inwards; syphilis has certain characteristic antecedents, which lupus never has. (2) In *scrofula* the glands are first attacked, in lupus the skin; scrofula does not attack the nose and mouth, lupus seldom spares them; the skin round a strumous ulcer is always livid, round a lupous mostly red; the discharge from the strumous sore is copious and purulent, from the lupous glutinous and scanty; the strumous habit is rarely found associated with lupus, and when it is scrofula disappears as lupus advances. (3) From *cancer* lupus is distinguished by the absence of malignancy, of stony hardness, and of lancinating pains; by the different microscopic characters of the diseased parts; by the slow progress of lupus, and its preference of young subjects; and, lastly, by the difference of the usual sites affected. As to its pathology, Hunt concludes, from observations made at his request by Mr. T. Hogg, that lupus exedens is primarily a disease of the sebaceous follicles, which, becoming disintegrated, discharge their contents into the cellular membrane, possibly as a vitiated or decomposed secretion, and, as such, exciting irritation and ulceration of the phagedenic kind; the glutinous exudation being composed chiefly of the abnormal fatty secretion of the sebaceous glands, discharged by their disruption. The same degeneration of the sebaceous glands probably occurs in lupus non-exedens; but here the affected glands are less numerous, smaller, and more superficial. For lupus exedens arsenic perseveringly administered is the remedy; for lupus non-exedens, ol. morrh., ammon. iod., and ferruginous preparations, are more suitable.

GAY, J.—*On the External Use of the Solution of the Pernitrate of Mercury in Epithelial Cancer, Lupus exedens, and the Induration of Chancre.* Brit. Med. J., Jan. 18th.

Gay remarks, "the obvious value of this agent lies in its being fatal to the disease, and powerless over the healthy tissues. The one it destroys, while it spares the other; . . . . and not only so, but it appears to quicken the healing energies of the latter; so that no sooner is the last vestige of the disease gone, but the wound is almost cicatrized."

SEICHE.—*On the Treatment of Anthrax.* Med. Centr. Ztg. xxx, 1861.

Seiche treated eleven patients in the ordinary way with incisions, and six died; in five of these cases there was pyæmia, and only one of these recovered. Of the other twelve treated with collodium painted over and around the tumour, none died, and pyæmia occurred in three cases only.

DAUVERGNE.—*A Pommade to prevent the Fall of the Hair.* Bullet. Génér. de Thérapeutique, Dec. 15th, 1861. Brit. and For. Med.-Chir. Rev., July, 1862.

Lard, 30 drachms; Norwegian tar, 3 dr.; butter of nutmegs, 2 dr.; benzoin, 2 drs.; Fiovarenti balm, 3 drs.; baume de commandeur, 3 drs.; musk, 3 grains; essence of patchouli, 30 grains.

HEBRA, F.—*On the Non-Existence of Characteristic Cicatrices.* Allg. Wien. Med. Ztg., vi, 1861.

Hebra affirms that the kind of cicatrix depends partly on local and anatomical circumstances, partly on the kind of application which has been made to the wound. Nitrate of silver produces the best, sulphuric acid the worst, cicatrices. Astringent applications, as weak sulphate of copper lotions, induce thin; stimulating, as ungt. digestiv. induce thick, cicatrices. Spontaneous cicatrices constitute Keloid.

WERTHEIM, G.—*On Sycosis.* Wien. Ztschr., xviii, 1861. Schmidt's Jahrb., vol 115, p. 184.

Wertheim ascribes the peculiarities of sycosis to the circumstance, that in the parts of the skin which it affects the hair is thicker in proportion to the diameter of the follicle than in the scalp. Pus, which is formed by the inflammation of the follicle, cannot therefore escape so easily. He recommends removal of the hairs.

GULL.—Med. T. and Gaz. Sept. 13th.

Records a case of favus affecting almost the entire body, and one of the nails. The disease had lasted fourteen years. Two years ago he was apparently quite cured. The lad was stinted in growth, æt. 20, pale and cachectic, but free from any special constitutional disease. Under good diet, removal of the crests, application of calomel ointment, and the internal use of syr. ferri. iod. in ol. morrh., he got quite well.

GUNTNER.—*Furunculoid and Carbunculoid Inflammation in the Face.* Œsterr. Ztschr. f. prakt. Heilk., viii, i, 1862. Schmidt's Jahrb., vol. 114, p. 42.

Güntner has met with five cases in his experience, of which three ended fatally, and two recovered. In all the disease commenced in the upper lip. He looks upon the situation of the disease as of essential moment, believing that the short, stiff, connective tissue of the lips, the nose, or the septum nar. specially favours the early occurrence of thrombosis of the larger veins, which is the first step to the ensuing phlebitis. Three of the five were males, two females. In all, taking cold while perspiring appeared to be the exciting cause of the disease, which sets in with rigors, followed by fever. It attains its maximum about the tenth day, and death occurs between the fourteenth and sixteenth. The phenomena are those of carbuncle, with more or less extensive diffuse inflammation, occupying the whole of the face, temples, and submaxillary region. In favourable cases the fever remits, the œdematous swelling subsides, the tumour becomes more circumscribed, and either suppurates freely, or undergoes resolution, in the course of three to four weeks. In bad cases the swelling extends over the whole head and neck, the conjunctivæ become chemosed, the fever more intense, consciousness is suddenly lost, the patient becomes restless and delirious, the pupils dilated and insensible; gradually general relaxation ensues, sopor, and death. In the only autopsy that was made, serous effusion was found in the pia mater and in the ventricles, the brain was congested, the superficial veins near the left lower jaw were obstructed by firm coagula, the lungs œdematous, and some deposits of the size of a nut in the left. Güntner recommends, in order to procure early resolution, copious inunction with mercurial ointment, scarifications of the whole infiltrated part, leeches in the vicinity, purgatives, and especially the constant application of warm fomentations. Güntner assents to the view, that in fatal cases the cause of death is pyæmia and phlebitis, propagated along the ophthalmic vein to the cavernous and other cerebral sinuses.

SENDLER, TH.—*Epidemic Acute Œdema of the Subcutaneous Tissue and of the Muscles.* Deutsche Klinik, No. 27.

Sendler has met with numerous cases of a disorder of this kind during the summer months of 1858, '59, and the following years, and in March and April of this year, which were unusually warm. The symptoms consist of pains in the joints, tension and swelling of the muscles, which are painful on pressure or voluntary movement, firm œdema of the face and extremities, general depression and unrest, frontal headach, giddiness, and catarrhal affection of the stomach and bronchi. The fever is of remittent character with evening exacerbations. The disease is rarely over in a week, and it is often tediously prolonged with relapses. It occurs almost exclusively among the working population, and seems to be induced by wetting and chills. It is generally confined to a small district, and seems to locate itself in certain houses. It is apt to be succeeded by anæmia and great debility. No really efficacious treatment has been found. Probably these were cases of Trichina-disease, *v.* Schmidt's Jahrb., Vol. 117, p. 50.—ED.

SACC, F.—Journ. de Brux., xxxiv, p. 576, 1862.

Relates a case of obstinate eczema of the left hand, which, after several years of fruitless treatment, yielded to the local application of concentrated acetic acid.

ALOYS MARTIN.—*New Hair Fungus in the Human Subject.*—Henle u. Pf. Ztschr. 3, R. xiv., 1862. Schmidt's Jahrb., vol. 115, p. 311.

The hair at the back of the head in a child, æt. one year and a-half, became after a fever, of a peculiar yellow-brown or red colour. This colour was occasioned by a translucent deposit around the hair shaft near its root. The deposit consisted of a gelatinoid substance containing vesicles like those of yeast. It was quite got rid of by washing with soap and water.

V. BÄRENSPRUNG, F.—*Pemphigus, Febris Vesiculosa and Bullosa.* Annal. der Berliner Char. x., 1862. Schmidt's Jahrb., vol. 116, p. 63.

The disease may not be attended with fever, is not periodic, and lasts two, three, or more weeks. It may occur at any age, mostly in middle life; very commonly, it is attended with an affection of the mouth and throat, consisting in a vesicular eruption, or in acute œdematous swellings. The urine is not notably altered. The eruption appears at first as round, red, scattered spots, whose margins gradually become of a darker colour, and cease to disappear on pressure, while the centres develop vesicles at first clear, subsequently turbid, of alkaline reaction. The bullæ may attain a large size either by growth or confluence. They appear symmetrically chiefly on the upper, and next on the lower, extremities. Bärensprung distinguishes pompholyx from pemphigus chiefly by the circumstances that the former occurs only in weakly or cachectic persons, and that the eruption does not appear on sound but on morbid skin. He has not met with pemphigus as a syphilitic eruption. After pointing out the diagnosis of pemphigus from various other affections, Bärensprung states that he applies sweet oil to the vesicles, and gives pot. chloras with advantage.

Lehmann, L.—*Diffusion through the Skin in Bathing.* Virchow's Arch. xxii., p. 133, 1861. Schmidt's Jahrb., vol. 116, p. 171.

In twenty-six careful experiments with three boys under the age of eight years, Lehmann was unable to obtain conclusive evidence of the absorption of water by the skin. The quantity of urine secreted in a given time after bathing was greater than in the same time before.

SUBJECTS OF GENERAL INTEREST.

Skinner, T.—*On the Granulation of Medicines.*—Brit. Med. J., Feb. 15th.

Skinner advocates this method, which consists in mixing the powdered substances with mucilage, drying and then coarsely pulverizing them, so as to reduce them to granules, which are then separated by sieves into different sizes, dried if necessary, and lastly coated with strong tincture of tolu. He thinks that drugs prepared in this way are more permanent and more easily taken.

Greeves, A. F. A.—Lancet, Feb. 1.

Recommends an Australian bark from the tree "Atherospernum Moschetum" in bronchitis and heart-disease. A decoction is made with ℥j of the bark to Oj of water, boiled 10-15 minutes.

Prunus Virginiana (Wild Cherry-bark) is highly esteemed by American physicians. It is reputed to be powerfully tonic, calmative of nervous irritability, and an arterial sedative. It is used in nervous dyspepsia, gastralgia, coughs, general debility, and in the sequelæ of influenzal catarrhs.—Lancet, Feb. 8.

Gelseminum sempervivens (Yellow Jasmine) is stated (Lancet, Dec. 6th) to act as a nervous sedative, producing an agreeable languor with considerable muscular relaxation. In larger doses it causes giddiness, dimness of vision, dilated pupil, general muscular debility and prostration, reducing the frequency and force of the pulse, and the frequency of respiration, and producing insensibility to pain, but without stupor or delirium. After a short time these symptoms pass off, leaving no unpleasant effects. Its chief use is in sthenic idiopathic fevers, the dose varying from three to fifty drops.

Becquet recommends the following paste in dental caries: Acidi Arseniosi ʒj, Morphiæ ʒij, Creasoti q. s. In twenty-four hours after the cavity has been dressed with this, the tooth has lost all sensibility.—Bull. de Thér., lxiii, Aug. 1862.

Gardner (Lancet, Dec. 6th) recommends the Verbascum Thapsus (common Mullein) as a very efficient sedative. It is useful in bronchial catarrh, both taken internally and smoked. The dry leaves are used for smoking, and a tincture is prepared from the flower stalks when the plant is coming to seed.

Pfaff.—*On the the Influence of Ozone.*—Henke's Ztschr. f. Staats., No. 2, 1862. Med. T. and Gaz., Sep. 27th.

Pfaff finds ozone present in the atmosphere in large quantities during stormy weather succeeding continued fine. It was generally at its lowest point during a continuance of any kind of unchanged weather, whether wet or dry. The direction of the wind does not influence the presence of ozone. A large proportion of ozone in the atmosphere acts mischievously on diseases of the respiratory organs, favours the development of inflammatory affections, and especially tonsillitis. Ozone exerts little or no effect upon epidemic diseases if these are not complicated with catarrhal affections.

Martin.—J. de Med. and de Chir. Pratiq., vol. xxxiii, p. 81.

Recommends bits of agaric dipped in solution of perchloride of iron and dried, as a convenient means of arresting hæmorrhage from leechbites when troublesome.

Gerard.—J. de Med. & de Chir. Pratiq., vol. xxxiii, p. 465.

Affirms that poisonous fungi may be eaten with impunity if they are steeped previously for two hours in water well acidulated with vinegar (about ℥j to ℥ij, ad Oij), or having salt mixed with it, and then well washed and boiled for twenty or thirty minutes, and then washed again.

Rosenthal.—*On the Absorption of Preparations of Iodine.* Wien. Med. Halle, iii, 20, 1862. Schmidt's Jahrb., vol. 116, p. 34.

Rosenthal finds that when full doses of pot. iod. are taken, iodine can be demonstrated in the urine during forty hours if but little fluid is drank; whereas when fluid is drank copiously iodine cannot be detected after twenty-four hours. He finds also that iodine can be detected in the saliva and urine very positively, after inunction with pure pot. iod. ointment, and also after baths containing the same ingredient.

Paasch.—Preuss. Ver.-Ztg. N. F. v. 19, 1862. *On the Inhalation of Gaseous Substances.*

Martins.—Memor. vii. 2, Feb. 1862. Schmidt's Jahrb., vol. 116, p. 35.

Paasch recommends inhaling the fumes of muriate of ammonia in pulmonary catarrh. They are to be generated by placing a watch-glass containing H. Cl. in a saucer holding a little caustic ammonia; the vapour of the latter, he thinks, if unneutralized by the H. Cl. will combine with the C O_2 of the air-cells. Martins ascribes the beneficial action of nitre-paper in asthma, to the carbonate of potash and caustic potash which are contained in the fumes.

Erdmann.—*Fourth Report on Electro-therapy.* Schmidt's Jahrb., vol. 114, p. 243.

Our limits only allow us to make a few extracts. Remak has recorded some cases of the central transference of peripheral anæsthesia, and of reflex spasm. These he believes to depend on an irritation communicated to the centre from some part of the surface. They were removed by constant currents. Becquerel states that he prefers strong rapidly intermitting induction-currents passed through moist sponges applied to the skin, in the treatment of neuralgia, to the faradisation of the dry skin recommended by Duchenne. The current causes at first severe pain, which soon ceases, and on stopping the current the neuralgia has disappeared. It returns in some hours, but may be removed permanently by five to sixteen repetitions of the proceeding. Flies observed during the passage of constant galvanic currents that sensations were communicated from the nerves of one to those of the other side, and from the upper to the lower extremity. Remak confirms Froriep's observation, to the effect that in traumatic tetanus an inflammatory exudation in the form of a tubercle developes itself at the injured point of the nerve, and that similar tubercles are produced in a central direction on the larger nerve-trunks. Meyer cured permanently a case of epileptic paroxysms and constant quivering of the right forearm by faradisation, and also a case of vomiting after meals by the same proceeding applied to the vagus. Debout and Colson record cases of varus and valgus deformity of the feet restored by faradisation of the weakened muscles. Faro cured anteflexion and retroflexion of the uterus by faradisation, one pole being applied to the os. Beau has treated successfully in the same way inflammatory and hypertrophic affections of the cervix uteri, which had resisted cauterization. Holsbeck, Bitterlin, and Taylor, have treated amenorrhœa and dysmenorrhœa successfully by electricity. The latter used Pulvermacher's chain. Kobell has cured many cases of impotence in the male, both the anæsthetic and hyperæsthetic forms, by electro-cutaneous irritation of the skin of the penis, combined with faradisation of the muscles of the perinæum. In cases where the hyperæsthesia of the genital membrane is complicated with involuntary discharges, a constant current from a battery of fifteen to twenty Daniell's elements, is passed from the middle of the spinal column downwards to the sacrum for three or four minutes. Then the positive pole is placed on the perinæum, and the negative on the glans on the dorsum of the penis, and the current passed for about the same time. Finally the current is interrupted a few times. Of eighty-three cases of various kinds forty-five were cured. Schulz also uses the constant current from a Daniell's battery in such cases, and states that it diminishes the excitability of the cord. Congenital nervous deaf-dumbness has been treated by Duchenne with faradisation with some amount of success. He says that if the first application of the current produces the sensation of taste or of noise in the ear, the deafness almost certainly is not the result of organic disease.

Althaus, J.—*On the Therapeutical Use of Electricity and Galvinism.* Med. T. and Gaz., Aug. 30th, Sept. 13th.

Althaus points out the different effects of the continuous and interrupted currents. Of the former he recommends either Groves', Daniell's, or Bunsen's, of the latter, Stöhrer's, of Dresden. He thus describes the mode of producing coagulation of the blood in an aneurism, which is not accessible to the ligature. A steel needle covered with zinc, and connected with the positive pole of a pile of twenty pairs of Bunsen's, Groves', or Daniell's battery, fully charged, should be inserted in the centre of the sac, and the circuit be closed by placing a metallic plate connected with the negative pole on the surface of the tumour. The current is to be passed for fifteen to twenty minutes. The negative pole must not be introduced into the sac, because alkali accumulates there and renders the blood more fluid. Faradisation may be employed for the cure of hydrocele, care being taken to introduce the points of the needles actually into the fluid. In opacities of the cornea it is also a valuable remedy, the negative pole being applied to the closed eye, while a moist conductor connected with the positive pole is held in one hand. The duration of the treatment will be from one to three months, the current being passed for fifteen minutes three or four times a week. Absorption of rheumatic effusions may be readily induced by the same means, especially if they are seated in the skin, cellular tissue, and muscles. Dry conductors should be used except when the face is affected. If muscular contractions are present faradisation of the skin and of the antagonists of the contracted muscles, with simultaneous galvanisation of the latter is of great benefit. Certain glandular tumours may be much diminished in the same way, either faradisation or galvanisation being employed. Unhealthy ulcers may by the same means be stimulated very advantageously, and brought into a more healthy state. If a single pair of elements (zinc and silver) be used, the silver is to be applied to the ulcer. In cases of suppressed or defective secretion faradisation is of much service, and also in amenorrhœa of a torpid character. In palsy from apoplectic extravasation faradisation is of use if the muscles are flaccid, or if they are tonically contracted galvanisation. In paralysis from disease of the spinal cord galvanisation frequently proves very beneficial, especially when spasms are associated with the paralytic symptoms. In paralysis of the muscles of the eye, if there be not central disease, faradisation may be of service, and the same is true in cases of hysterical aphonia, and also in some forms of club-foot, where the deformity is caused by paralysis of the muscles on the front of the leg. Paralysis of the bladder and nocturnal incontinence of urine may be remedied by faradisation, a catheter connected with the positive pole being introduced. In rheumatic and simple hyperæsthesia and neuralgia, repeated faradisation is often effective. It is also useful in cases of inertia uteri with hæmorrhage.

DANNECY.—Bullet. de Thérapeut., Dec. 1861. Edin. Med. J., April.

Finds that many persons who are nauseated by Ol. Morrh., and reject it, can retain it if they take immediately afterwards eight to ten grains of calcined magnesia in water.

SCHLOCKOW.—*On some of the Effects of Sulphate of Quinine.* Stud. d. Physiolog. Instit. zu Breslau, p. 163, 1861. Schmidt's Jahrb., vol. 113, p. 121.

Schlockow found that the heart's action in frogs was very soon slowed, and at last arrested in diastole, and that the tissue comparatively soon lost its irritability. The respiration also becomes irregular and intermitting, and the locomotive movements tottering and unsteady. The cornea also loses its sensibility. In rabbits also the locomotive actions become impaired, the hinder limbs are paralysed, sensation is weakened in all the limbs. The heart's action does not become accelerated when the vagi are divided after it has previously been slowed by large doses. But if the vagi have been previously divided, the heart's action is still slowed by large doses, which shows that the slowing depends on a paralysis of the sympathetic ganglia, or of the muscular structure of the organ.

Tichborne.—*On Vesicating Collodions.* Pharmaceut. J. Brit. Med. J. May 31st.

The blistering principle is extracted from the cantharides, or mylabris cichorii, by methylated ether and glacial acetic acid, and the fluid is then converted into collodion by the addition of gun-cotton. The composition should be painted repeatedly over the part to be blistered, until about half-a-drachm has been used to the square inch, or less if the epidermis be thin. The blistering action is hastened by covering the collodion with a large piece of gutta percha paper. In ten minutes, or a quarter of an hour, if the cuticle be hard, the collodion should be wiped off with a little cotton-wool, moistened with ether, when the blister will almost instantly rise. The advantages of this proceeding are cleanliness, avoidance of risk of displacement, prompt vesication, and safety from strangury. The following formula is given: ℞. Cantharides, ℥vj-℥viij; Ether, methylated, ʒxiij; Glacial Acetic Acid, ℥ij; Gun-cotton, ʒss; Methylated spirit, ʒvij.

Morgan, J. E., M.A., M.B., Oxon.—*The Disease of St. Kilda.* Brit. and For. Med.-Ch. Rev., Jan.

Trismus neonatorum, an influenzal affection termed the "boat cough," and dysentery, are the most prevalent diseases of this small island. The latter Morgan attributes to the use of the sea-fowl as food, which, with coarse oatmeal, potatoes, and milk, form their entire subsistence. The "boat cough," according to all the evidence that has been collected, is in some way intimately associated with the arrival of strangers at the island, whence its name. The trismus appears to depend most probably on the close and vitiated atmosphere of the huts in which the inhabitants reside, and perhaps especially on their practice of having no chimney, and allowing the soot to accumulate on the roof, that it may be used for the purposes of manure.

Wallace, A., M.D.—*Experiments on the administration of Cod-liver and other Oils.* Med. T. and Gaz., April 19th.

Wallace states that there is considerable advantage in making the oil into an emulsion with liq. calcis, or syr. ferri iod., or vin. ferri and glycerine. It is borne much better by a weak stomach, and is altogether more efficacious even in ordinary cases.

Child, G. W., M.D.—*On Marriages of Consanguinity.* Brit. and For. Med.-Ch. Rev., April 1862.

Child states the following propositions as the result of his examination of the subject. (1) That the marriages of blood-relations have no tendency, *per se*, to produce degeneration of race. (2) That they have a tendency to strengthen and develop in the offspring, individual peculiarities of the parents, both mental and physical, whether morbid or otherwise; and therefore in practice they often do induce degeneration. (3) That there are some cases in which it would be actually safer (as far as the chance of healthy offspring is concerned) for a man to marry a blood-relation, than a woman not so related with whose family history he was unacquainted. (4) That by means of a proper regard to known facts relating to hereditary transmission, a physician may predict with great accuracy the probable result, as regards the health of the offspring of a marriage of blood-relations in any particular case, if only he be sufficiently acquainted with the hygienic history of the family.

DUVAY.—*On the bad Effects of Marriages amongst near Relations.* Gaz. Hebdom., vol. vii, No. 37. Edin. J., Jan. 1862.

Duvay affirms that pure consanguinity isolated from all circumstances of hereditary disease contains, *ipso facto*, a principle of organic vitiation. He gives the history of a family of six children (four daughters and two sons), of whom three married cousins-german, and three married strangers. The first three had twenty-four children, of whom twenty died young; the other group had nineteen children, of whom three died young. One of the females had eleven children, all of whom died of hydrocephalus at a very early age, one only attaining the age of fourteen years. In another instance two healthy persons had eight children, of whom seven died before the age of four years, from convulsions or hydrocephalus. Other instances are given in which anomalies of organization resulted from marriages of relations.

OZANAM.—*On the Preparation of Oxygenated Water, and its Therapeutical use.* Compte rendu de l'Académie des Sc., Nov. 1861. Brit. and For. Med.-Ch. Rev., July 1862.

The water is distilled, and then charged with oxygen under the influence of high pressure. It improves the condition of the blood in cases where that fluid is impaired or deficient, as in dyspnœa, asthma, slow asphyxia, cyanosis, diseases of the heart, hæmorrhoids, and hæmorrhoidal visceral congestion. It possesses also an oxidizing or metamorphic action in cases where the organic products are arrested in their development, as happens in glycosuria, gout, uric, and oxalic gravel, and perhaps in scrofula. It exerts an exciting and regulating action on the brain and thyroid gland, and hence its use in goitre and cretinism. It is of no use in hemicrania, and injurious in inflammatory disease.

TR. GUACO.—Gaz. Med. de Lyon. Ann. Therapeut., 1862, p. 49.—Is found very useful as a local application in purulent ophthalmia, vaginitis, old ulcers, gangrenous sores, and even hospital gangrene.

OSBORNE, JON.—*On the Employment of a Heated Thermometer for the Measurement of the Cooling Power of the Air on the Human Body.* Dublin Q. J. of Med. Sc., May, 1862.

The instrument is graduated only from 80° to 90° F. At each observation it is to be heated to 90°, and then the number of seconds observed which it takes to cool down to 80°. (1) It shows the conducting power of air or water. In an apartment at the temperature of 54°, it cooled in air in 94″; in water at 54°, it cooled in 8″. In a room of temperature 40°, it cooled in 74°; in same room, same temperature, it cooled when covered with damp cloth in 36″. (2) It shows the cooling effect of currents in the surrounding media of air or water. In water at rest, temperature 70° F., it cooled in 24″; when agitated in the same, in 15″. In a room, temperature 57°, it cooled in 115″; when blown on with a bellows, it cooled in 16″. In a room, temperature 60°, it cooled in 131″; but when placed in a cylindrical glass jar, two inches in diameter, it cooled at 157″. (3) It shows the effect of wind, that most important element of climate, which is entirely unheeded by the ordinary thermometer. In the open air, at 61°, it cooled in 45″; when protected by the glass cylinder, it cooled in 149″. (4) It shows the refrigerating effect of air admitted into apartments from open windows. In a room, temperature 44°, it cooled in 72″. In the same room, with the window open, and the external temperature 34°, it cooled in 32″. (5) It shows to what degree the heat derived from an open fire-place is accompanied by a cooling process from the current of air rushing towards the fire. (6) It shows the cold and heat of climates as actually felt by human beings.

LANGIER.—*New Mode of Treatment of Local Gangrene by Oxygen Baths.* Bullet. Génér. de Thérap., May 30th, 1862. Brit and For. Med.-Chir. Rev., July.

Acting on M. Réveil's theory, that the essential cause of gangrene is a diminution or absence of the oxygen necessary for the integrity of the life of tissue, Langier has placed parts affected with commencing mortification in an apparatus where pure oxygen was being disengaged. The gangrene was speedily arrested in two cases.

DE RICCI.—*Phlorydzine and its Uses.* Dublin Q. J. of Med. Sc., Aug. 1862.

This is a neutral principle, which exists in considerable quantities in the bark of the root of the apple, plum, and cherry trees; it contains no nitrogen, does not act as a base, is very insoluble in cold water, but easily dissolves on the addition of a little ammonia. It is very suitable in cases which need a tonic, but are intolerant of quinine, salicine, or iron. The dose is five grains three or four times a-day for adults.

WUNDERLICH, C. A.—*On the Use of the Thermometer at the Sick Bed.* Schmidt's Jahrb., vol. 114, p. 85.

Wunderlich gives first some practical rules, and then lays down in a series of twenty-seven propositions the chief facts relative to the temperature of the body in diseases. These were noticed in the last Year-Book; we shall therefore only adduce some of the illustrative instances which he appends to show the utility of this mode of examination. In a patient who presents all the signs of a typhus fever in the first week, the temperature is or becomes normal, though only temporarily, in the course of the week. This single proof of a normal temperature at any time in the first week of an existing febrile affection, proves with the greatest certainty that no typhus exists. In pertussis, so long as the temperature remains normal, there is no inflammatory complication. A patient who has in the morning a temperature of 104°, having been healthy the day before, suffers either with ephemeral or intermittent fever; the latter if the temperature be 106° or higher. In pneumonia a temperature of 104° and above is a sign of a grave illness; and in acute rheumatism it is a suspicious symptom, and indicates some dangerous complication or change. An increase of temperature in a case of icterus, which previously was benignant, gives ground for expecting that it will assume the pernicious form; in a lying-in-woman it is a sign of commencing inflammation; in a tuberculous patient, a proof of the advance of the process, or of the setting-in of complications. The following descriptions are given of the temperature changes in various affections:—In ephemeral fever the rise is rapid, and the culmination is reached in a period varying from a few hours to thirty-six; it remains at this point for twenty-four hours at most, and then rapidly falls. The temperature in measles reaches its culminating point on the fifth day, and then a rapid and complete defervescence and fall of temperature ensues, which is complete in thirty-six to eighty-four hours, unless complications ensue. The course of the fever in erysipelas is similar, but the culmination period is longer, and the time of the commencing defervescence varies between the fourth and eighth day. Defervescence is rapid, and completed in twelve to thirty-six hours. It is, however, by no means uncommon for short relapses, attended with a rise of temperature, to occur. In scarlatina the febrile temperature long continues high, and its fall when it begins is gradual, occupying four to eight days. In varioloid occurring after vaccination, the temperature is high for a few days, but falls very rapidly as the eruption comes out—six to ten degrees in thirty-six hours; nor does it rise again (unless serious complications take place) except to a moderate amount, and for a few days during the drying up of the pustules. In regular variola the temperature falls more or less when the eruption comes out; rises again to a considerable height during the process of suppuration; sinks after a varying time, to rise again at the time of desiccation. The changes during enteric typhus have been considered in the last report (1861). In exanthematic (true) typhus the duration of the fever uninterrupted is longer than in any other typical disease except enteric typhus. Weekly periods are observed, resembling closely those of this form. In regular cases, if slight, there is a small decrease on the fourth day, which becomes still more notable on the 7th, changes to a brief increase at the beginning of the second week, and sinks again, so as to arrive at the normal at the end of this, or the beginning of the third week. In severe cases the fever lasts with great intensity, at least until the twelfth day, mostly to the fifteenth, and defervescence ensues more often in the first half of the third than at the end of the second week. During the culmination the thermometer often marks 104° to 106° or more. The difference between the morning and evening temperature during this period amounts to no more than 1° 1, to 1° 48 F., whereas in typhoid fever the difference is greater. The defervescence takes place rapidly, sometimes in a single night, mostly in twenty-four to thirty-six hours, and herein differs remarkably from its remitting course in typhoid. In the non-typical forms of pneumonia, thermometry gives no aid to diagnosis; the lung may be advancing to destruction, although there is but little variation in the temperature. In *genuine* (primary-croupous) pneumonia the temperature rises rapidly, amounting the first day to 101° 7, and keeps up continuously 4°. 5, to 5°. 6, above the normal, with little or no morning remission, until about the fifth or seventh day it falls rapidly, and returns to the normal in thirty-six hours, or less. In cases complicated with pleurisy, bronchitis, or intestinal disorder, in neglected or in grave cases, the defervescence may, however, occupy two to three and a-half days. The rapid and early elevation of the temperature, and the absence of remissions, is almost diagnostic of this form of pneumonia. *Catarrhal* pneumonia differs from the preceding by its less marked commencement, and the presence of catarrh. Morning and evening variations are much more marked, rapid defervescence is exceptional; it usually takes place by an increase of the morning remissions, and decrease of the evening exacerbations. *Intermittent* pneumonia has several falls and subsequent rises of temperature, the type being tertian or quartan. Wunderlich affirms generally that the temperature is the surest measure of the improvement or aggravation of a disease, of its running a favourable or unfavourable course, and of the efficacy of treatment.

FLEMING, A., M.D.—*Note on the Cumulative Action of Medicines.* Edin. Med. J., Dec.

Fleming distinguishes between true cumulative action and apparent. The latter, he says, occurs only when a drug has been given in a solid form, has not been dissolved, and so successive doses have collected in the alimentary canal, which suddenly from some cause get dissolved and absorbed and produce violent action. The former term he uses to denote the gradual increase of physiological action from the successive exhibition of equal doses. Each dose is given before the effects of the former have passed off, and the effect is gradually increased. This mode of exhibition should always be pursued with digitalis and aconite. Fleming affirms that he has always found depression of the circulation to take place gradually. On the other hand, with atropia and strychnia it is important to avoid cumulative action, as they are intended to be given for a considerable time. *Sequel* action is the term Fleming applies to certain effects produced by the *continued use* of such drugs as alcohol and aconite, and which are quite distinct from their primary effects, and also from the *reactional* which ensue on their withdrawal.

DEMME, R.—*Nitro-glycerine as a Remedy.* Schweiz. Ztschr. i. p. 156, 1862. Schmidt's Jahrb., vol. 116, p. 173.

This preparation (glonoine) is, according to the author, a powerful and rapidly acting poison, much resembling nux vomica, but more effective than it or its derivatives in many cases. It does not appear to accumulate, but has not been detected yet in any of the se- or excretions. No injurious consequences have resulted from its continued use. It has been employed chiefly in non-organic paralysis.

REPORT ON SURGERY.

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LITERATURE.

THE third volume of Emmert's 'Treatise on Surgery' (Stuttg., Daun) has been at length concluded; a volume on foreign bodies, burns, and injuries from cold, has been added to Dr. Mair's collection of monographs (München, Giel); the third edition of Bardeleben's large work (Berlin, Reimer) has been published. Dr. A. Wernher has issued the first part of a new and completely altered edition (Giessen, Ricker) of his 'General and Special Surgery.' In France E. Follin has commenced a work (Paris, Masson), which is to be completed in three large volumes; and MM. Denonvilliers et Gosselin have advanced their compendium of 'Practical Surgery' (Paris, Asselin) by another part; they promise an early completion. In this country we may mention the third volume of Holmes's 'Surgery,' a second and enlarged edition of Heath's 'Manual of Minor Surgery,' and 'Lectures on Surgery' by Mr. Lawrence. Mr. Collis has published ('Dub. Quart. Journ.,' xxxiii, p. 163, 417) "A Retrospect of the Progress of Surgery during the Last Decade." G. Fischer's 'Contributions from the Surgical Clinic of Göttingen' (Hannover, Hahn), and L. Voillemier's 'Clinique Chirurgicale' (Paris, J. B. Baillière) have also appeared; the latter is to a great extent a collection of papers which had been already published.

SURGICAL ANATOMY.

A new edition of Velpeau's 'Manual' (Paris, G. Baillière) has been edited by J. B. Beraud, who has also published the first part of an 'Atlas of Topographical Anatomy,' specially to illustrate the 'Manual,' but which will also serve as a most valuable complement to any work on the subject. Luschka has brought out a volume on 'The Anatomy of the Human Neck' (Tübing., Laupp), which is to be followed by a series of others; the whole will form a complete system of anatomy, treated with reference to the requirements of practical medicine. A fourth edition of Froriep's 'Atlas of Topographical Anatomy' has also appeared. Pirogoff's work on the 'Surgical Anatomy of the Arteries' (new ed., Leipz., C. F. Winter) is now concluded; it forms an octavo volume, with fifty partially coloured plates.

MILITARY AND NAVAL SURGERY.

On the former we have an American work by F. H. Hamilton; a translation of Appia's 'Ambulance Surgeon;' the completion of Demme's work ('Studies in Military Surgery in the Italian Hospitals of 1859,' Würzb., Stahel); the commencement of a new periodical, the 'Gazette of Military Medicine' (in connection with the 'Wien. Med. Halle'), and the 'Army Med. Reports for 1860.' On the latter subject a French treatise by L. Saurel. D. T. Demel ('Wien. Med. Wochens.,' 1862, 101) strongly recommends the study of gunshot wounds on the dead body as an invaluable source of instruction to the military surgeon in respect to the diagnosis, the course of balls, the practice of resections. He found, among other things, the statement of Stromeyer confirmed, that the head of the humerus is splintered only when the ball strikes near the tubercles, and never when it hits the surgical neck, or still lower.

OPERATIVE SURGERY.

The second part of 'Günther's Guide to Operating on the Human Body' (Leipz., C. F. Winter) gives a description of the operations on the pelvis, and is freely illustrated. The first half of a new edition of Linhart's 'Compendium' (Wien, Braumüller), and the completion of Chassaignac's 'Treatise,' have appeared. E. Gurlt has published a small 'Manual of Operations' (Berlin, Hirschwald) for the use of students. Dr. A. Tobold has given a description and drawing of a new operating chair, and also of an operating table for military use ('Deutsche Klinik,' 1862, p. 53). Cessner's 'Handbook of Surgical Instruments and Bandages' (Wien, Seidel) has arrived at a third edition.

MATERIA CHIRURGICA AND THE MEDICAL TREATMENT OF SURGICAL CASES.

Mr. Paget has published an address on the management of patients after surgical operations ('Brit. Med. Journ.,' 1862, ii, 155). He remarks that, though the preference for immediate union is generally just, it may become an unwise prejudice. "When that mode of treatment is attempted and fails, it may lead to something more than disappointment—it may be very mischievous, for there is no local source of blood-poisoning more effectual than the retention of blood or pus till they decompose behind the edges of a wound unwisely united. The rule, therefore, for the choice of modes of healing may be always in favour of union by the first intention, when there is a reasonable probability that it can be, at least, in good part accomplished; but when there is less than a reasonable probability, to make no attempt at it. The local treatment may be summed up in two words—repose and cleanliness. The cleanliness should, however, include more than it commonly does, such as the use of general or large local baths, the value of which, especially after lithotomy and other perineal and pelvic operations, cannot be overstated; and of the frequent change, not only of dressings, if there be any, and of bed-linen, but of beds; and, during convalescence, the change of rooms or of one part of a ward for another. As to general treatment, the best plan is to let the patients be as nearly as possible in the ordinary mode of prudent life, to give no medicine of which the need is not expressly indicated, to observe all rules of personal cleanliness, to provide abundant fresh air, and a sufficient or a liberal mixed diet.

"I believe, then, that in our retrospect of the management of patients after surgical operations, we may congratulate ourselves on the increasing simplicity of our practice, founded on the wider recognition of the sufficiency of the natural processes of recovery. And herein surgery may be said to have made a good contribution to that more accurate study of the natural history of disease which is becoming the most pressing want of our time. What will happen if this or that injury or disease be left to itself, or only so managed as the patient's comfort may suggest? The question has been often asked, but rarely answered; yet it must be answered before we can accurately study the value of any medical or surgical remedy. It is the question in therapeutics that should most occupy our minds; for until we have made our standards of what the progress of disease is if left alone, we cannot judge of our power of controlling or of remedying it."

Dr. Druitt recommends ('Trans. of Obst. Soc. of London,' iii, 143) a liquid essence of beef, as an auxiliary to, and partial substitute for, brandy in all cases of great exhaustion or weakness, attended with cerebral depression or despondency. It is free from anything that loads the stomach, and appears to exert a rapid and remarkable stimulating power over the brain. It is prepared by chopping up lean beef, enclosing it in a jar, and subjecting it for an hour or more to heat. The liquid essence is strained off from the fibre, and the fat separated by means of blotting paper.

Mr. Cooper recommends cacao butter as a basis for ointments and suppositories ('Lancet,' 1862, i, 683).

Dr. Ebermann ('St. Petersb. Med. Zeits.,' ii, p. 84) reports favorably on the long-continued immersion of ulcers, thecal inflammations, &c., in warm water. The temperature should be decided by the patient; the maximum time during which this treatment was continued was thirty-eight, and the minimum five, days. It generally relieved pain, and induced a more abundant but at the same time more healthy suppuration.

Broca ('Gaz. des Hôp.,' 1862, p. 76) confirms the statement of Blandin, that the spinal canal is occasionally opened by sloughs on the sacrum, thus facilitating the extension of the inflammation to the spinal meninges. In a case of death after amputation, no affection of the stump could be found, but an examination of a slough on the sacrum showed phlebitis of the sacral veins and inflammation extending to the spinal canal. Mr. Hilton reports a similar case ('Lancet,' 1862, ii, 2), and states that he has several times seen fatal mischief result from a bed-sore extending to the interior of the vertebral canal.

Dr. J. Bell ('Glasg. Med. Journ.,' 1862, x, p. 166) recommends as the most rapid plan of producing mercurialization a mercurial suppository. It should be composed of a drachm of strong mercurial ointment, with a little tallow, and should be inserted into the rectum every eight hours. A full dose of opium should be given about two hours previously, in order to secure its retention. Dr. Bell has on some occasions seen the gums becoming tender within twenty-four hours; the time required rarely exceeded two days. Dr. O'Connor ('Lancet,' 1861, ii, 523) recommends the use of mercurial suppositories in cases of constitutional syphilis. One, containing from fifteen to twenty grains of Ung. Hyd., should be introduced into the bowel every night. He states that by this plan the mercury is well absorbed, that the irritation of the stomach and bowels, which so often follows the administration of mercury by the mouth, is avoided, and that he has recourse to this treatment in nearly all the cases coming under his care.

Mr. Gay ('Brit. Med. Journ.,' 1862, i, 59) has found the solution of the pernitrate of mercury, externally applied, of great use. He has tried it in a number of cases of epithelial cancer, and affirms that, so far as this affection is curable by its perfect local eradication, the solution can effect a cure. Thus, in an epithelial cancer of the lower lip, it was applied freely to the whole of the ulcerated surface. It gave great pain, but only for an hour or two. It had the effect of destroying a layer of the diseased growth, which came away as a slough on the third day. The remedy was applied, or rather the surface was soaked with the solution, twice a week for a period of six weeks, with the same result after each application. As it destroyed layer after layer of the cancer, so the wound deepened; but at the same time the adjoining tissues closed in by granulation from every point of healthy tissue, as this was stealthily reclaimed from the invasion of the cancerous growth, until at length, *even under the continued application of the agent*, the whole surface threw out healthy granulations, and the wound healed with scarcely a mark, and without loss of healthy structure. The value of this agent lies in its being fatal to the disease and powerless over the healthy tissues. The one it destroys, whilst it spares the other; and not only so, but it appears to quicken the healing energies of the latter; for the repairing process keeps pace with the speed with which the former comes under its exterminating influence, so that no sooner is the last vestige of the disease gone, but the wound is almost cicatrized. It proves useful also in lupus exedens, and in indurated chancre.

Dr. Scholz ('Wien. Wochens.,' 1861) strongly recommends the parchment paper prepared by sulphuric acid, as cheaper and in every way better than the thin gutta percha and other materials used to retain moisture in dressing wounds.

Mr. A. Prichard ('Brit. Med. Journ.,' 1862, i, 306) uses gutta percha after operations for clubfoot, instead of other apparatus. "When the foot has become quite loose by the division of the muscles, and this can be effected in most cases as soon as the wounds are healed—that is, in three or four days—I carefully bandage the foot, and then envelope it in a layer of thick gutta percha, made perfectly soft by being kept in water at 212°, and covered on each surface with some thin paper to prevent it sticking to the bandages. It must be adapted closely to the foot by bandaging; and then, grasping the limb with both hands, and bringing the foot into a natural position at right angles with the tibia, I plunge it into a pan of cold water, where I hold it until the gutta percha is quite firm; about five minutes will be found sufficient for this purpose."

The results obtained in vesico-vaginal fistula, apparently through the use of metallic sutures, by Sims and others, seemed to justify the belief that metallic bodies really cause less irritation than vegetable; this opinion appeared to be confirmed by the experiments published by Mr. Simpson. The subject is of importance, and we are glad to be able to communicate some researches, which bring it somewhat nearer a practical decision. M. Ollier ('Gaz. Hebd.,' 1862, pp. 135, 181, 261, 359) attributes to metallic threads the following advantages—they ulcerate and divide the tissues less rapidly; they occasion less suppuration along their track; they are sooner tolerated by the tissues through which they penetrate, and may be allowed to remain for a longer period; they leave smaller cicatrices; all which advantages are, according to M. Ollier, owing to the less irritation produced by them. His experiments showed clearly the great importance of using very fine wire or thread; when wire of the thickness of a hair of the beard was compared with the thread commonly employed, the superiority of the former was undeniable. When the threads were of the same size the difference was less sensible, and occasionally for some days could not be perceived; as the rule, however, those composed of metal had the superiority of ultimately becoming tolerated (healed in, like ear-rings), whilst the vegetable products continued to excite suppuration. He found iron wire as well tolerated as that of any other metal; and as it could be produced of extreme delicacy without too much diminishing its strength, he ultimately adopted its use exclusively. He employs several sizes, which may be classified as—capillary wire, from 0·08 mm. to 0·11 mm.; medium wire, from 0·18 mm. to 0·24 mm.; large wire, from 0·40 mm. to 0·45 mm. The capillary wire is sufficiently strong for most sutures; it will bear without breaking a weight of 400 to 500 grammes. It is generally advisable to insert numerous points of suture, so as to distribute over a larger surface the force retaining the edges in contact, and thus to diminish the traction exercised by each particular thread. Ollier places the sutures so near as three or four millimetres when he uses the finest wire. In respect to the disadvantages of vegetable substances, his experiments scarcely confirm those of Mr. Simpson as to the absorption and decomposition of pus and other liquids by vegetable materials; he appears to lay more weight on the mechanical effect of swelling, which must occur in every vegetable thread to some extent. In the quill-suture, the author has adopted two plates of lead moulded according to the shape of the parts, in place of the quills or pieces of bougie commonly used.

G. Simon ('On Vesico-vaginal Fistula, &c.,' Rostock, 1862) has also found, as the result of an extensive series of experiments, that fine are preferable to coarse sutures; on the other hand, he has not perceived any important difference between fine, well-twisted silk, and fine metallic wire. He also tried horsehair for a considerable time; on the surface of the body it answered well, but in cavities it was difficult of application, owing to its smoothness and elasticity; finally he abandoned its use and returned to that of fine silk. He found a distinct difference in the intensity of the inflammation and suppuration, dependent upon the material; this difference was always caused by the greater or less thickness of the threads, and by the greater or less roughness of their surface; the difference during the first seven or eight days depending on the size, that during a later period on the roughness. There was no appreciable difference in the intensity of the suppuration when well-twisted silk of the diameter of thick horsehair was compared with delicate metallic wire. In both cases, when the sutures were left untied, there was slight swelling, and on the third or fourth day a very scanty purulent discharge from the punctures; when firmly tied, or when introduced through mucous membrane, both suppurated earlier and more freely. After six or eight days, however, a slight difference appeared; the metallic threads no longer suppurated, the silk threads generally discharged slightly. As, however, this difference does not appear till after the sixth or eighth day, it can have no effect on union by the first intention. The tissues were divided by metallic, just as rapidly as by silk thread of the same thickness. Thus, fine silk thread is in no respect inferior to wire, in some respects it is superior; owing to its great flexibility, the absence of all elasticity, and its relatively great strength, it may be introduced and tied with the greatest simplicity and ease, both on the surface and in cavities; besides, silk sutures are much more readily removed than metallic. He entirely rejects Simpson's explanation of the differences (real or supposed) between metallic and organic sutures. He considers that the history of the operation for vesico-vaginal fistula furnishes a most striking proof, that the material, of which the sutures are composed, has no influence on union by the first intention. Jobert, with his thick, flat ligatures, cured far more cases than Dieffenbach and Wutzer, who used fine metallic threads. And why? Because the former rendered the fistula more accessible, because he pared its margins more freely and exactly, and because he united more carefully. The Americans and English obtained still better results than Jobert, because by the invention of Sims's speculum the operation was still more facilitated, and also because union by numerous fine sutures was better than union by broad ligatures. Simon's results have even surpassed the latter; not, in his opinion, because he employed fine silk, but because he rendered the fistula more accessible, improved the methods of paring and uniting, and amended the after-treatment.

CAUSES OF DEATH AFTER OPERATIONS.

Mr. Paget ('Brit. Med. Journ.,' 1862, ii, 157) points out the need of a much more minute record and analysis than has yet been made of the causes of danger and mortality after operations. There are certain classes of cases to which, if they are to be tabulated at all, separate tables must be assigned, because in them the history of the operation and its consequences cannot be separated from that of the disease for which it is performed. Thus it is, for example, with operations for hernia, with tracheotomy, and trephining. Every surgeon has lost a large proportion of his patients after those operations, but the operations themselves are very rarely the cause of death, the worst that can be said of them is that they do not always save life. Such are deaths after operations, not because of them. All such cases must be excluded from general tables of mortality after operations and from all studies of their general dangers and general management.

And among the deaths some, again, must be separated, as being, in a measure, accidental. Such are the deaths from typhus, scarlet fever, scurvy, and other diseases, that fall, as it were, casually on those who have been operated on. Deaths from these causes are not deaths from the effects of operations. They do not justly, or should not without explanation, be put to their discredit. Only, in excluding them, we must deal very honestly, and put with them none to which the operation in any measure ministered.

Among the deaths and dangers really due to operations we have, first, those from shock. If we include under this heading only those in which patients die without ever rallying from the depression into which the operation casts them, they are very rare. Mr. Paget has scarcely seen one, and his impression is that they are made rarer than they used to be, both by the use of anæsthetics and by the greater liberality of diet and the more natural manner in which patients are treated previous to operations; so that they come to face the difficulty, not with the least, but with the most, strength that we can give them. Great energy of treatment during shock may do great mischief. Especially may the profuse and rapid giving of food and stimulants be very injurious, by producing or aggravating sickness, one of the worst complications that can be added to the shock, making it, by exhaustion, newly perilous.

Other sources of danger and of death are those from chloroform-sickness, from deficient or disorderly reaction, from acute local inflammation, from primary and from recurrent hæmorrhage; these might form, in our study of cases or in our tabulation of their results, a separate group, as being due to the more or less of natural or almost inevitable processes. In this they are essentially different from the next class of cases, where the peril comes from events that have more of the nature of diseases, that are more preventible, and that seem to have their origin, for the most part, in definite and specific morbid changes in the blood. Such are the most frequent cases of phlebitis and of inflamed lymphatics, all the forms and degrees of erysipelas, of pyæmia, putrid infection, of tetanus, and some others.

FEVER ACCOMPANYING SURGICAL AFFECTIONS.

The following researches on traumatic fever and other complications of wounds (published by Dr. Th. Billroth in Langenbeck's 'Archiv f. Klin. Chirurgie,' B. ii, and also, separately, Berlin, Hirschwald) appear to us most important. We have, accordingly, not hesitated to devote a considerable space to their consideration. We may remark, that in Germany, the writings of Zimmermann, Traube, Bärensprung, and especially Wunderlich, had called general attention to the use of the thermometer in febrile complaints. There is a short but good account of the results in Uhle and Wagner, 'Handbook of General Pathology' (Leipz., 1862), and an abstract of an interesting paper in the 'Medical Times and Gazette' (1861, vol. ii, pp. 326, 385). Billroth commences with expressing his surprise, that among the many works on fever published since the thermometer has been applied to its study, none should yet have treated the traumatic variety, apparently the simplest form of a febrile complaint. It is in the study of this variety, if anywhere, that we ought to discover the real nature of fever. Nothing appears more simple than to observe the changes in the temperature of the body, in the frequency of the pulse, and in the metamorphosis of tissue, which occur in a healthy man at a definite time, and are evidently caused by some distinct injury, such as an amputation. In such cases clinical observation has all the precision of experiment. Were we to study traumatic fever on animals, we could not render the particular momenta more exact, nor vary them to a greater extent, than what really occurs by accident in any large surgical clinic.

In commencing his observations, the author laid down certain questions for examination, such as the following:—Has traumatic fever any typical course? How is it modified? What is its relation to hectic? What is the course of the fever in pyæmia, in traumatic erysipelas, or in trismus?

The most important symptom of fever is the increase in the temperature of the blood, to which accordingly the author has paid special attention; at the same time he has never neglected to note the rapidity of the pulse, and has also examined occasionally the urine. The temperature was measured in the axilla exactly according to the directions of v. Bärensprung and Traube. The thermometers employed were made by Geissler, in Berlin, with the centigrade graduation, each degree being divided into ten parts. In twenty observations made on healthy individuals the author found a minimum of 36·3° (in the morning between eight and nine), and a maximum of 37·9° (in the evening between five and six). Thus the normal temperature of healthy persons may vary in the day to the amount of 1·6°; in one and the same healthy person, however, the greatest difference between the morning and evening temperature was 1·2°. A patient may be considered to be without fever when the temperature has fallen and remained for twenty-four hours below 37·9°, the maximum of the normal heat; in the same way the temperature is below the normal when it sinks to less than 36·3°. Billroth calls the febrile condition, which for the most part rapidly follows a wound, traumatic fever. After the traumatic fever has ended, or, in other words, after the temperature of a patient has been below the maximum of the normal temperature for at least twenty-four hours, there often occurs a fresh attack of fever, although no special complication, such as erysipelas, trismus, or pyæmia, has supervened. This fresh attack he denominates a secondary fever (*Nachfieber*). Such secondary attacks may be repeated a number of times; for the most part they are caused by fresh inflammations of the wound—fresh inflammations, which may be readily enough perceived, but of which we often fail in tracing the cause.

I. *Traumatic and Secondary Fever in the Healthy.*

By the healthy the author signifies persons not affected with fever. He has observed 165 surgical cases,* from which he has selected 77, in which, after injuries either from accident or operation, the traumatic fever could be followed to perfect recovery; in a number of these cases secondary attacks also occurred. At first he eliminated the cases of suppurating wounds unattended by fever, such as cases of caries, necrosis, open cancer, &c., because it is generally supposed that such patients are less affected by operations; he has, however, been unable to find any decided difference in the traumatic fever attending such cases from that occurring in the robust. It is true that, under certain circumstances, secondary attacks occur more rarely, especially where the sphere of the operation is confined to parts affected with chronic inflammation, as in necrosis; where, however, as in resection of a joint, or other operation for caries, healthy tissues are divided, there is no very important difference in the febrile reaction, and for this reason he includes such cases in the present remarks.

After a great number of injuries there is no fever at all. In the seventy-seven cases there were twenty such; among the injuries there were simple fractures of the forearm, leg, and thigh, a resection of the alveolar process of the upper jaw, a rhinoplastic operation, an operation for phymosis, an excision of a cancer of the lip, a luxation of the elbow, extirpations of the eye. Hence it results that injuries varying much in extent, wounds which heal by the first intention and others that heal by suppuration, occurring in the old and young, the strong and weak, the male and female, may be unattended by fever, whilst in other exactly similar cases either slight or severe attacks may occur. Neither *the part affected* nor the *extent of the wound* are by themselves decisive as to the occurrence of fever. At the same time it must be remarked that among these cases none were very extensive nor yet of a nature to endanger life. As soon as it had been shown that fever was often absent in slight cases, the author discontinued his observations on such patients. Accordingly the proportion of twenty cases without fever to fifty-seven with fever is entirely without any statistical value. The author is inclined to think that, counting all cases of wounds together, the number of those with, is far less than that of those, who are without it.

In five cases traumatic fever was entirely absent, yet there ensued more or less violent secondary fevers or other accidental diseases. Thus, the absence of traumatic fever by no means guarantees the absence of future complications; just as little, however, does it justify an unfavorable prognosis.

No fever occurred in a man of seventy from whom a cancer of the lip had been excised by the V incision, and the temperature sank repeatedly below the minimum of the normal heat, even as low as 35°. There had been no particular loss of blood during the operation.

There now remain fifty-two cases, in which the traumatic fever took its regular course, and from these we shall next proceed to determine its duration. *In most cases it lasts two to seven days;* ten cases continued five days, eight six days, and nine seven days. When the traumatic fever lasts more than seven days, we may consider the prolongation to be caused by there being no interval between it and the secondary fever, which is excited by fresh inflammations around the wound. Even in the cases continuing over five days, there is sometimes a marked decrease on the second, often on the third or fifth, day, so that even such appear to be composed of two attacks; yet this phenomenon is not sufficiently common, for us to draw any conclusion from it as to the duration of the first constitutional reaction. The examination of the course of the fever will render this clearer. When the duration was from one to four days, the cases were principally those of injuries in patients with suppurating ulcers, and of operations after which the wounds healed by suppuration. When the fever lasted five to seven days, the patient had generally been robust, and suffered serious injuries. Whether the wound of an amputation healed by the first or second intention, made no difference in the duration of the fever. When the fever lasted more than seven days, the patients were for the most part robust, but the wounds were attended by much suppuration. The age and constitution had no essential influence over the duration.

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* In a note he adds that at a later period these observations had increased to 225.

The course.—The fever rarely commences with a rigor; it generally augments very rapidly; in fifty-two cases the highest temperature was attained twelve times on the first day and sixteen times on the second. In the cases where the temperature soon arrives at its highest point, the increase is generally regular (thirty cases); where the temperature does not arrive at its acme till a later period, there are slight morning remissions. Occasionally there is a steady increase without morning remissions up to the fourth day, so that it appears that the reaction in different individuals varies in its rapidity. In five cases the thermometer was applied immediately after the operation, and the temperature measured every half hour till evening; from ten o'clock in the morning the temperature sank slowly, yet never below the normal, till one at noon, at which time it began to ascend. The author found that the temperature was often diminished, but never increased, by loss of blood; the difference amounted to 0·1° to 1·3°; only in four cases did the temperature sink below the normal. It cannot be denied that the greater the loss of blood the more is the temperature diminished, yet this effect is very transitory; very soon the temperature rises again, and where after an operation the temperature has been abnormally low, he has seen very violent fever; he has been unable to recognise any decided effect of bloodletting on traumatic fever, either as to its increase or diminution.

*The fastigium.**—The highest temperature during a traumatic fever generally occurred in the evening (forty-five times), only exceptionally in the morning (seven times). The degrees of heat were most often between 39° and 39·9°, or more exactly—

15 times between 38° and 38·9°
32 „ „ 39° 39·9°
5 „ „ 40° 40·5°

Any considerable height of the temperature during the first day is, in general, without any importance. If, however, after the fever has been moderate during the earlier period, there should occur a considerable increase in the temperature (over 40°, perhaps on the third or fourth day), it is tolerably certain that some accidental local inflammation or some constitutional affection is in process of development.

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* By the fastigium we mean the acme or greatest intensity of the febrile attack.—T. W.

The defervescence, the diminution of the fever, owing to the shortness of the fastigium, generally begins on the same day as that of the greatest height. It thus occurs most often on the second or first, more rarely on the fourth or third, most rarely on the fifth, sixth, or seventh day. Hence it results that the critical days, on which the fever connected with internal diseases so often begins to decline, are here quite without value; moreover the occurrence of suppuration neither influences the diminution of the temperature nor the duration of the fever.

The defervescence was rapid in twenty-five of Dr. Billroth's cases (generally in twenty-four, sometimes in thirty-six, hours); slow in twenty-seven cases (over thirty-six hours). Thus almost the half of the cases ended by crisis, the rest by lysis; in the former the diminution was almost always regular, in the latter with evening exacerbations.

In traumatic fever the frequency of the pulse is almost always proportional to the temperature, and is a tolerably certain guide, especially as to the duration. For the intensity of the fever, it is a far less safe measure.

Secondary Fever.

There were twenty-three cases of secondary fever; to these must be added the five cases already mentioned in which there was no traumatic fever, and six cases in which the traumatic fever lasted from eight to eighteen days; so that of the fifty-two cases only eighteen remain, in which the course was quite regular and without secondary fever.

Whether after the traumatic there will be secondary fever, cannot be predicted either from the duration, the intensity, or the course of the primary attack. Careful observation of the attacks of secondary fever is far more important than of those of traumatic fever.

Causes.—In five cases they remained doubtful; in these cases they lasted one or two days, occurred on the fourth, seventh, eighth, ninth, fourteenth day, were evidenced by an increase in the evening temperature, and had no further importance; in many of these cases the wound healed by the first intention. The most usual causes were—

1. Retention of the secretions, and especially in closed wounds. 2. Inflammation of the subcutaneous or intermuscular connective tissue, spreading from the wound, and caused, for example, by the slow throwing off of contused skin, fascia, or tendons, by the presence of foreign bodies, ligatures, &c. 3. Retention of fæces and of the urine (the latter is more common in severe injuries than is generally supposed). 4. Consecutive inflammations of other organs and tissues, for example, pleuritis and pericarditis in fracture of the ribs, acute tracheal catarrh in wounds of the trachea.

Of all these causes the second is by far the most common, and requires the most careful watching.

Course.—Extremely various; in most (short) attacks a rapid increase, sometimes with a moderate fastigium, sometimes with a very high one, to 40° or $40{\cdot}5^\circ$; sometimes with a slow, sometimes with a rapid, defervescence; no type at all can be traced in the longer attacks. When pus is rapidly formed, and a free exit can be procured without causing any great irritation, the fever immediately diminishes. Thus both the traumatic and secondary fevers are connected with the local condition of inflammatory fluxion or congestion; when suppuration takes place, the fever ceases. Hence it appears that whenever a patient, who has suffered an operation or other injury, is feverish beyond the eighth day, or commences again to be feverish after he has been free from it, it will be necessary to make a very accurate examination; because in by far the great mass of cases such attacks are *caused by local inflammatory processes* around the wound, which by spreading may give rise to considerable danger.

Effects of different Local Treatments on the Wound and on the Fever.

The author considers it quite unnecessary to apply extreme cold or heat to a recent wound. He places every fresh wound by position or bandage (in fractures) in as perfect rest as possible, and covers it with a compress wet with water, to relieve the feeling of tension which accompanies a perfectly exposed wound; at a later period the suppurating wounds are generally covered with a compress dipped in the chlorine solution, unless the granulations demand some special local means. Very important would it be to determine the value of ice or the water-bath in preventing inflammations around the wounded part. The author cannot pretend to fully settle these questions; to assist somewhat, however, he has made a series of comparative observations, one series of cases being treated with ice, another with the water-bath; his object being especially to determine whether the treatment had any essential influence on the course of the traumatic fever, and whether it prevented secondary inflammations or other complications.

Recent wounds treated by ice.—Under this heading he includes only those cases in which this treatment was steadily carried out, those cases in which the ice was constantly and freely applied till all the contused portions had been thrown off, till fever had been absent several days, and even till the granulations had begun to cicatrize. In the summer of 1859 ice was thus applied in twenty-five cases; the results were as follows:

In 3 cases there occurred no fever.
6 " " traumatic fever, lasting 6 to 8 days.
2 " " moderate suppuration around the wound.
6 " " very important suppuration; of these, three died from pyæmia, and in the rest the fever continued till the twentieth, twenty-second, fiftieth day, the ice being applied the same length of time.
4 " " diffuse phlegmon, and the patients died from septicæmia.
2 " " trismus and tetanus.

Single cases also occurred of lymphangitis and of erysipelas. It must be noted that among these twenty-five cases there were some of a very serious nature; eight of them ended in death, and five were in serious

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danger through extensive and continually recurring suppurations. The author is far from drawing positive conclusions from these few observations, yet he cannot leave this subject without mentioning the following negative results:

1. The treatment with ice has no striking influence on the duration of the traumatic fever; it does not materially shorten it.

2. It does not prevent the occurrence of diffuse phlegmon.

3. It does not prevent the development of extensive inflammations around recent injuries of the bones and of the consequently long and repeated secondary fevers.

The effect of ice applied to parts already inflamed is quite different; in such cases, and especially in those where suppurative inflammations are spreading around wounds, it acts as an excellent antiphlogistic. It is in progressing inflammations with a tendency to suppuration, in such conditions as occur after compound fractures, after resections or wounds of the joints, that ice is principally indicated and especially effective. So far the author perfectly agrees with Esmarch when he enlarges on the incomparably better results of this treatment than of that with poultices.

Treatment of progressing suppurations by poultices and the continued water-bath.—The poultice or the constant application of moist warmth promotes suppuration, or, as it is said, maturates; it also acts as a stimulant when applied to unhealthily suppurating surfaces. Thus it was very natural to employ it to promote the removal of sloughs from contused parts or in wounds which discharged a thin sanies. To apply a poultice to a suppurating wound was, indeed, an advance in comparison with the ancient practice with plasters and salves. In cases, however, where suppuration is spreading, its use is attended by some unpleasant results; the wounds become relaxed, the parts around sodden and swollen, the escape of pus impeded, and the matter itself thin and bad. The continued water-bath has all these defects to a still greater degree when employed in deep and far-extended phlegmon; the soft parts swell exceedingly, and the escape of pus is more impeded than by any other treatment; and although the patient often complains of but little pain, still the destruction of the deeper parts steadily progresses. "I consider the water-bath to have a directly injurious effect in extensive subcutaneous, peritendinous, and perimuscular suppurations."

Treatment of progressing suppurations with ice.—No method of treating the secondary suppurations which occur after resections, amputations, wounds of joints, &c., is superior to that with ice; at the same time sufficient counter-apertures must always be made. The author found, as the result of this treatment, that the inflammation rarely spreads further, that the pains cease, and that the fever diminishes. The wound generally remains pale, and the pus is thin and scanty, effects which are, however, of no importance. When the inflammation becomes circumscribed and the patient free from fever, the ice may be discontinued; the process of healing will then take its regular course. The absence of fever may be taken as an indication to discontinue the ice; should it, however, recommence, the ice must be at once reapplied, and improvement will soon again result. It is only by carefully watching the fever that we can act with certainty; in such cases its dependence on the inflammatory process is very marked. The author still employs ice as a prophylactic in one class of cases—those of extensive injury of the head, where, indeed, he considers it indispensable.

Treatment of wounds with the continued water-bath (immersion).—In the author's opinion this treatment is almost absolutely necessary for contused wounds of the hand and foot; it may be recommended for amputations about those parts, and cannot be replaced by any other treatment in cases of Pirogoff's amputation. In amputations of the forearm and leg it may be employed, but the results are no better than when the stumps are simply covered with a moist compress. In all other cases the continued water-bath is either unnecessary or really injurious. Billroth has often seen pyæmia come on during this treatment. As to internal treatment, the best means of soothing a patient who has suffered an injury is a quarter of a grain of morphia, which may always be administered in such cases to relieve pain or, still more, restlessness.

Very strange is the *retention of urine* which sometimes follows severe injuries or operations. The author does not mean that form which so regularly occurs after operations on the rectum, and which lasts twenty-four to forty-eight hours, but such as he has observed in two or three cases of compound fracture of the leg, where there has been no injury of the vesical region nor hæmaturia. Occasionally also the urine is *retained* for almost twenty-four hours after great operations, and yet the patients only complain of some fulness of the abdomen, so that the distended bladder is often only found by special examination.

II. *On Traumatic and Secondary Fever in the Diseased.*

The cases in which it was necessary to open a deep-seated abscess will be treated separately. Here we shall include cases of fever from some unknown cause or from chronic suppuration, cases of Bright's disease and of tuberculosis, and most cases of tracheotomy and of operation for hernia.

Cases of fever from chronic external suppurations.—Here it was found that a fresh and very intense fever followed the operation with tolerable rapidity, and that it usually exceeded the limits of the normal type, either secondary fever or some accidental complication supervening immediately after the traumatic attack.

Patients with commencing tuberculosis of the lungs.—It is still a disputed point whether an operation is admissible under these conditions; so far as the author's experience reaches, an operation is not contra-indicated, even though the whole appearance be phthisical, so long as there are only symptoms of chronic bronchial catarrh, without distinct infiltration of the lung; indeed, in such cases there is sometimes a striking improvement of the general condition, as soon as any external suppuration is brought to a termination by amputation—which, indeed, in these cases generally is to be preferred—or by resection, or other means of treatment. On the other hand, according to his present opinion, if dulness of the upper parts of the lungs is already present, every operation, as the rule, hastens death, and is therefore contra-indicated.

Patients with Bright's disease.—The author uses this denomination in its freest sense—persistent albuminuria and casts of various kinds in the urine. This disease is occasionally developed during the course of chronic disease of the bones or joints. According to his experience, the lardaceous disease (Speckkrankheit) of the kidneys, which is generally accompanied by the same affection of the liver and spleen, is of much more frequent occurrence, *in such cases*, than the diffuse nephritis with contraction, which, however, he has seen in a few similar instances. Practically, it is of importance to determine the characters of the reaction after operations which have been performed in cases of albuminuria, and to decide whether some improvement or even cure is induced in the kidney disease by the removal of the affected bone or joint, or whether such disease should be considered a decided contra-indication to operative treatment. Five cases gave the following results :—the traumatic fever was of moderate intensity, and continued once four days, once two days, twice one day; in two cases attacks of fever at a later period, without any local inflammation; once inflammation of the lymphatics, followed by death; once erysipelas, with a fatal termination (during an epidemic of erysipelas). We may conclude that the febrile reaction after operations on patients with kidney disease, but without dropsy, is not very great. "I cannot consider that a moderate Bright's disease, unattended by dropsy, by any marked diminution of the urine, or serious participation of the general nutrition, is a contra-indication for operations in other respects advisable."

Cases with partial peritonitis; operations for hernia.—The author has only observed the temperature in four cases, and cannot say more than that in strangulations of the bowel and secondary peritonitis the temperature is either normal or only very slightly increased.

III. *Traumatic Fever modified by contemporaneous Inflammation of Internal Organs.*

Cases of injury, in which both external and internal organs had been wounded, are included in this division. The author gives three cases of fractured ribs with pneumothorax, all of which recovered, and remarks that, as from a number of individuals with simple fracture of one or more ribs he had become convinced that no fever follows these injuries, it is evident that the fever occurring in these three cases was caused by a complication on the part of the pleura, lung, or heart. In all three cases the pneumothorax was restricted to one side, and attended by moderate dyspnœa; the fever was but slight, only once did the temperature reach 0·7° above the maximum of the normal heat, and even this slight elevation should be, perhaps, attributed rather to pleuritis, although the latter was in all three cases inconsiderable, than to the pneumothorax; for the latter disease, when unaccompanied by inflammation of the pleura, excites no fever, at least according to an interesting case related by Professor Billroth. In one case of *cut-throat* there was a secondary fever excited by a tolerably severe inflammation of the mucous membrane of the trachea and larynx; it commenced on the eighth day, increased up to 40·1° on the twelfth day, and ceased, at the same time as the inflammation, on the fifteenth day.

IV. *Fever in Acute and Chronic (not Traumatic) Suppurations, and the effect of opening Abscesses on the general condition.*

Rigors at the beginning of inflammation of external parts.—The temperature (traumatic fever) rarely increases after injuries so rapidly as to excite a rigor; on the other hand, acute inflammations of the subcutaneous cellular tissue, of the muscles, of the periosteum, of the mamma, very often commence with one. Rigors coincide with the first rapid rise of inflammation, with the stage of congestion, and not with that of suppuration. The further course of the fever entirely depends on the local condition. It must be noticed that the effect of opening an abscess depends on the thickness of the parts divided; where the knife incises only a very thin covering, it excites no fever whatever; where, on the other hand, it penetrates deeply, it not unfrequently evokes a great increase of temperature and a rigor. The immediate effect of opening a chronic or symptomatic abscess is the same, depending on the depth of the pus; the after course, however, varies,—in a chronic abscess, without disease of bone, the fever generally is of moderate intensity, and lasts three to five days, until the inner wall of the abscess has been thrown off, when the latter may gradually contract and heal. If, however, the pus takes its origin from a disease of a bone or of a joint the effect of the incision is not unfrequently to change the chronic into an acute course; fresh inflammations spreading in the parts around, continually recur, and with them the fever rises and falls until, at length, too often, the patient sinks from exhaustion.

"Elizabeth F—, twenty-four years of age, generally very healthy and robust, had been attacked with a most acute inflammation of the right knee seven weeks before her admission into the hospital. The pain was excruciating; the antiphlogistic and derivative treatment employed had had no effect; she was constantly somewhat feverish and much emaciated, very anæmic, and had become in the highest degree irritable. The pain in the knee was so violent as to cause great difficulty in her removal to the hospital, on the 6th December, 1860. The knee was much flexed and swollen, but there was not much fluid in the joint; the leg was very œdematous. The evening temperature was 38·2°. On the 10th of December the knee was extended under chloroform, and an immovable bandage applied; an ice-bag was placed over this during four days, to relieve the pain, which had, however, already decreased, and soon almost disappeared. There was no doubt of the existence of a subacute purulent synovitis. After the extension there was a moderate fever (on the evening of the second day to 39·5°), then a slow decrease in the heat, which continued, however, for eight days later, to reach in the evening to 38·1°—38·3°. Then the fever would sometimes entirely cease; but attacks of diarrhœa and a rather troublesome bed-sore repeatedly interfered with the regular course of convalescence and excited some fever. She was treated with Dec. Calumb., quinine, iron, and nourishing diet. The bandage had to be removed in four weeks, owing to ulceration of the heel and skin. It was not till February, 1861, that convalescence became regular; in May the patient had perfectly recovered her strength, and was able to leave the hospital, though still walking with a crutch.

The knee was painless, and not in the least swollen; after removal of the bandage it had become again somewhat flexed, so that at some later period it will require re-extension.

It results from this and similar cases that in latent, even in very chronic, suppurations, the feverish condition is of long duration, and very liable to recur, and that such patients are extraordinarily sensitive to even the slightest causes of fever; on the other hand, rapid and high augmentations of the temperature, or rigors, are rare.

In cases of profuse suppuration the fever has no more definite type than that of a remittent with evening exacerbations and morning remissions. It is either a simple or continued remittent; rarely, however, does it run a uniform course for any length of time. The causes, that excite or relieve fever in cases of external suppuration, are so much more numerous than those that influence it in internal and specially tubercular suppuration that we may clearly refer its great irregularity in the former to this circumstance. In joint suppurations such causes are presented in the newly forming abscesses, the spreading inflammations, the necessary incisions or punctures, which are continually exciting fresh attacks of fever or contributing to its mitigation; when a free exit is made for the pus, the fever decreases for a short time, until an examination of the wound, cleansing of the sinuses, further spreading of the suppuration, or some such irritation, again excites it; this they do all the more readily because, as already mentioned, such cases are extremely sensitive to fresh traumatic irritations.

Effects of inanition.—The patients, especially if old, seem to become exhausted with great rapidity from these surgical suppurations. Exhaustion so much reduces the action of the fever producing x (unknown cause), that a high temperature can no longer take place, even when there is an abnormal irritability; the temperature may become normal, and yet the case must be considered one of fever. In these patients the small and often very frequent pulse and particularly the general condition, will be safer guides as to prognosis than the temperature.

Causes of rigors in fever.—Their principal condition is a very rapid increase of temperature; another is a peculiar irritability of the patient, which may vary much in different cases or in the same case at different times. This point is of importance, for there are yet surgeons who consider the rigors in pyæmia as necessarily dependent on blood-poisoning, and who conclude, when the former are present, that the latter must also be so. When the thermometer is placed at the commencement of the rigor in the axilla, and the temperature is noted every quarter of an hour to the termination of the attack, it is found that there is a continued and rapid increase in the temperature up to the beginning of the warm stage, when there commences a slow decrease. For example, in a case of rigor after urinary infiltration from an injury of the urethra the already high temperature of 39·7° increased in one hour to 42·1° (11½ a.m.), and fell then very slowly, in six hours, to 38·8° (5½ p.m.).

Reaction of the fever on the wound, and on the future pyrexial symptoms.—The appearance of the wound and the tendency to disintegration of the tissues and to diffuse forms of inflammation are proportional to the continuance of the fever, the frequency of its paroxysms, and the deterioration of the general nutrition. The turgor of the granulations and the quality of the secretion may therefore in many, though not in all, cases serve as a measure of the action which is proceeding in the organism. Each attack of fever also has an influence on the future course; this may be traced with peculiar clearness in the cases attended by rigors. The irritability of the whole nervous system usually becomes increased after the first few attacks; the wounds become extremely sensitive, the slightest cause excites a fresh febrile outbreak, and the patient becomes mentally much depressed, thus a man who has been formerly very firm will even weep and despair of recovery. At first the rigors often recur, for some time becoming more severe, and then diminishing, both in number and intensity; if, at the same time, the emaciation augments, the prognosis may be considered as almost certainly fatal, whatever be the temperature. In such cases the general condition and the appearance of the wound settle the prognosis.

V. *Fever in the Metastatic Dyscrasia* (*Purulent Diathesis, Common Pyæmia with or without Thrombosis and Emboli*).

The author does not admit the existence of pyæmia unless there are metastatic inflammations, multiple centres of inflammation, and a great tendency to suppuration in various parts of the body. He then divides the cases into those in which the metastases can be proved to depend on emboli, which are comparatively rare in surgical practice, and into those in which no emboli can be traced, but where purulent inflammations appear to arise spontaneously in the lungs, the liver, the joints, the muscles, the subcutaneous cellular tissue, &c. As to the explanation of the latter cases, he remarks that observation clearly proves that fever really represents the response of the central organs to the peripheral nervous irritation, and specially to that kind of nervous irritation caused by inflammation. On the irritability of the central organs depends the greater or less severity of the fever symptoms. A frequent repetition of the irritation augments at first the irritability, then exhausts it, and leads to complete prostration and ultimately death; the latter is also hastened by the interference with the general change of tissue, a function so necessary to life. Thus, in order to explain the death, it is unnecessary to have recourse to the supposition of blood-poisoning. As to the metastases to distant parts, we can only answer that, owing to spreading suppurative inflammation of one part of the body, and the fever connected with it, the tendency to inflammation becomes so great that new centres of the same affection form at various spots. Possibly the cause is in some cases a peculiar condition of the blood, though not a putrid infection; sometimes, perhaps, an external irritation, such as slight pressure, exposure to a cold atmosphere, or occasionally, as in some cases of joint-affection, from a direct spread of the inflammation.

Death generally ensues from inanition caused by the fever and suppuration.—The pyæmia takes its origin from the local disease, and not from a miasma, and the patients die from exhaustion induced by a fever, which is being frequently nourished by fresh inflammations. The more frequent the attacks of fever and the less the stamina of the patient, so much the sooner will death occur. It must now be shown that metastatic inflammations are connected with exacerbations of the fever or rigors. In sixteen cases of pyæmia which have been carefully watched during the last eighteen months, fourteen ended in death, two in recovery; five times there were metastatic inflammations of the joints, and twice of the subcutaneous cellular tissue. As these cases could be followed with the greatest accuracy, it was easy to show that when the inflammation was in process of evolution the fever always increased, and that not unfrequently a distinct attack, with rigor, was excited. The same thing is true of both external and internal inflammations; often, indeed, we may diagnose metastatic abscesses in the lungs by the very absence of any other cause for the fresh rigors.

The fever.—The evening exacerbations are distinctly marked, so that the curves representing the course of the fever are essentially similar to those which are obtained from cases of extensive suppuration with fever, but without rigors or pyæmia; the type is that of a remittent or continued remittent. Occasionally, though rarely, there are distinct intermissions, the temperature becoming normal, the pulse quiet and less rapid; such intermissions improve the prognosis, whilst, on the other hand, a normal or unnaturally low temperature is often a very bad sign when the pulse continues extremely rapid. Such a combination not unfrequently occurs on the approach of death.

Pyæmia with emboli.—As a general rule, a secondary fever passes into the remittent type of pyæmic fever gradually, or with an intercurrent exacerbation. Rarely is the patient perfectly free from fever when pyæmia occurs; when it does so happen, it is to some extent probable that it is caused by the sudden occurrence of embolism. Thus, in the following case, a rather decrepit woman of about fifty had been totally free from fever from the seventh to the sixteenth day after a primary amputation of the arm, attended by secondary suppuration on the inner side of the stump (temperature normal, pulse 72 to 96); she was then suddenly attacked with a rigor, and sank in four days from the effects of a double pleuro-pneumonia. The post-mortem examination showed on both sides of the chest pleuritis and in both lungs innumerable abscesses, with necrosis of the pleura; no thrombosis was found, but unfortunately the humerus was not examined. The author considers it very probable, from the course, that embolism was the cause of the chest disease in this case. Metastatic inflammations, when the wound has been nearly healed, or when there have been old osseous suppurations, are probably always caused by thromboses and emboli; and death results from the disease in the lungs, which they excite, and not from any poisoning of the blood. In four only out of the fourteen cases could emboli be found in the lungs.

Localizing of the metastatic inflammation.—In the remaining ten cases the metastases to internal organs were thus distributed—eight times to the lung, once to the spleen, and once to the kidney; a proportion which, he believes, is pretty near the average. He is no follower of the theory of capillary emboli, yet he must admit that there is a certain relation between the position of the primary suppuration and the seat of the metastases. Icterus very often occurs in the pyæmia which follows operations on the urinary organs; but though icterus is very common, he has only once found hepatic abscess in a case of this kind. Abscess of the kidney is rather liable to happen when pyæmia takes its origin from a bed-sore.

Early diagnosis of pyæmia by means of the fever is not possible.—A patient who after the end of the traumatic fever has been for many days perfectly apyretic, without any secondary attack, is very little liable to pyæmia, unless venous thrombosis should accidentally cause the formation of emboli. On the other side, every case which is attended by repeated and intense secondary attacks, in consequence of progressive suppurations around the wound, is inclined to purulent metastasis, and requires the most assiduous watching and treatment. Some and often a great degree of local extension of the suppuration precedes the metastasis in all the cases which do not depend on emboli. The converse is also true, that embolism is the cause in most of the cases of death from metastasis in which there have been no suppurations around the wound.

The fever towards the end of life; aphthæ; sweat; urine.—In most cases the fever continues very intense till towards the end of the case, even when the patient is already extremely emaciated. It is only in rare cases, in elderly people, in whom the fever has never been very severe, that the temperature sinks in the agony below the normal. If the patient recovers, the defervescence is always very slow and with many interruptions. The author has often noticed aphthæ on the tongue and palate in pyæmia, just as in hectic. He considers the state of the tongue important in reference to prognosis; even though all the other symptoms improve, if it continues dry, the case always ends fatally. So long as the tongue is dry and the pulse slow and frequent, there is no real improvement.

An interesting case is also adduced in which cryptogams were produced in the bronchial tubes to a large amount.

Treatment.—There are undoubtedly cases which recover; the acute always die, but some of the subacute and chronic escape. In his opinion the most important is the local treatment. To prevent or stop inflammatory processes spreading from the wound is the most certain way to prevent pyæmia; at the same time the strength must be kept up as much as possible by diet and medicine. Metastatic inflammations in external parts must be treated in the same way as primary attacks.

In respect to pyæmia, resections are more dangerous than amputations; if a joint is opened, and the parts around are contused and lacerated, as is so often the case in machinery accidents, there will be great risk attending a simple resection, owing to the extensive suppurations which will inevitably occur around the wound. In many cases of injury of even the wrist or elbow-joint it will be safer to amputate.

Careful stopping of all bleeding and absolute rest are of great importance in respect to the prevention of pyæmia. In cases of compound fracture the dressing should be such that the wound can be cleansed without the slightest motion of the bones for at least fourteen days. Ice must be employed in the manner already mentioned. Deep incisions for opening abscesses should be avoided in these cases as much as possible, for each incision is very liable to excite a fresh attack of fever, and each attack of fever exhausts the patient and renders him more liable to metastasis. If repeated rigors occur, and the suppuration is undiminished by the treatment, amputation should be at once performed; even though there exist well-marked metastasis, it is still possible that the removal of the principal seat of suppuration may be followed by recovery. A robust man of sixty had been suffering for four months from disease of the joint between the fifth metatarsal and cuboid bones. On the 29th September, 1860, an incision was made, and the carious portions were removed. This operation was followed by suppuration on the dorsum of the foot and in the leg, and fever; on the 15th of October there was a severe rigor, followed by a second on the 16th; on the 18th there was pain in the left shoulder, and on the 19th in the left thigh. On the 23rd we were obliged to make two fresh incisions in the foot; again there ensued a violent rigor. A severe bronchial catarrh, without any distinct affection of the lung, occurred; the suppuration in the leg could no longer be restrained. The patient refused amputation, but finally, on November 5th, he consented, and it was performed just below the knee; healing by the first intention; the fever, which had been so far constant, ceased five days after the amputation; the metastatic inflammation of the shoulder diminished, and a rapid convalescence ensued.

The author is inclined to open the joint-abscesses earlier than is usually done; he also recommends those in the subcutaneous tissues to be opened as soon as there is fluctuation.

He has often, in insidious, subacute suppurations, given quinine in the afternoon to the amount of four to six grains, in one or two doses, and has found that it has the greatest effect in checking the evening exacerbations when thus administered. The effect of the first doses is often very striking, that of the later ones is much less. Opium, so much recommended by Hasse, has the effect of stopping the rigors when given in large doses; yet if the fever is traced with the thermometer, its antipyretic action is found but slight. The author has found it best to give in the afternoon four to six grains of quinine, and in the evening one grain of opium. Veratrin, which has been also recommended, has in some cases a decidedly injurious effect. The author does not consider it well to commence with much wine; in the later stages, when collapse supervenes, it must be given freely, and its action is, in his opinion, assisted by the administration of camphor and opium.

VI. *Fever in Septicæmia.*

Septicæmia is essentially different from pyæmia; though the exact chemical change in the composition of the blood has not been made out, still it may be produced experimentally by the injection of putrid (filtered) fluids into the veins or intestinal canal, so that we may conclude with great certainty that it depends on the absorption of putrid matters.

In surgical cases it is only developed after recent injuries, generally between the second and the fourth day. The circumference of the wound becomes within the time mentioned, and especially towards the third day, much reddened and œdematous. The swelling spreads with great rapidity; thus in twenty-four hours it may extend from the hand to the shoulder. Pressure near the wound causes the discharge of some ichor mixed with bubbles of gas. The disintegration of the intermuscular and subcutaneous cellular tissues spreads with great rapidity from the wound; where to-day there is simple œdema, to-morrow there will be an ichorous infiltration; so it proceeds till death occurs. The author has found the vessels almost always normal, except that the venous walls were tinged red. The disease is really a progressive gangrene of the cellular tissue; it has been called by Pirogoff acute purulent œdema. Of nine cases in which it occurred, seven were severe machinery accidents; one was a serious operation for a fibrous polypus of the pharynx; one was a simple amputation below the knee for a pulsating carcinoma of the tibia. Death took place—

Once on the 4th day,
,, ,, 5th ,,
,, ,, 6th ,,
,, ,, 7th ,,
Twice ,, 8th ,,
Once ,, 9th ,,
,, ,, 12th ,,

The course of the ninth case was so modified by an early amputation that it could not be included; it must also be mentioned that the disease was interrupted and the duration prolonged by the same operation in the patients who died on the seventh, eighth, and twelfth days.

The general condition is very significant; the patient suffers only during the first day or two; as the ichorous infiltration begins, there usually occurs a species of torpor, a symptom foreboding evil in such a case. He is very thirsty and the tongue is dry and brown, yet he is unconcerned about his wounds; he expresses little pain when they are dressed, and not unfrequently answers with a trembling, hoarse voice to the question how he is, "Very well." Such patients are generally delirious, but quiet; often they seem to be calmly sleeping; they generally give correct answers to questions; whilst pyæmic patients tremble with anxiety when the surgeon approaches them, these appear indifferent as to what is done with them. This early participation of the sensorium is a very characteristic symptom of septicæmia; it is never entirely absent, though it may vary in degree. In the cases running a rapid course there is often no other symptom. A gradually increasing soporous condition is the prelude to death. In the less acute cases there may be diarrhœa and vomiting.

The fever.—In none of the nine cases were there rigors, nor could any paroxysms be traced with the thermometer. Thus in a case of compound luxation of the foot there was no fever up to the fourth day, on the evening of which the temperature was 37·3°. In the night there commenced an infiltration of the leg, and on the ensuing morning the temperature was 40·1°. The patient refused amputation because he had no pain. He died on the eighth day, up to which time the temperature remained high, its lowest point being 39°.

No special type can be traced in the fever, nor can more be asserted than that septicæmia is often accompanied by a high temperature and continued fever. Should the case last some time, and there be besides diarrhœa and vomiting, it may end with symptoms of inanition and a low temperature; whilst if its course be rapid, and the patient robust, the temperature remains abnormally high even in the agony. A rapid and considerable increase of the temperature on the third or fourth day, with delirium and a somnolent state, when there is an ichorous appearance of the wound and considerable infiltration of the injured extremity is always a certain sign of septicæmia, and demands immediate amputation through healthy parts, provided it is still possible. The author has found albumen in the urine in some cases; sweats are pretty common.

There is no traumatic disease more dangerous than this, for the patients almost always die. Still it is proved by experiments that the absorption of a small quantity of putrid matter is not necessarily fatal, and there is no reason why it should be so in man, provided its source be at once removed by amputation. The author has seen two cases thus arrested; one was the following:—A man was admitted into the Berlin Surgical Clinic for a lacerated hand. No primary operation was indicated. There soon appeared marked symptoms of septicæmia, extending to the middle of the arm. Langenbeck disarticulated at the shoulder-joint, and the patient perfectly recovered.

It is of great importance to decide how high the amputation should be. Examination after death or after amputation teaches, that, for a great distance above the really ichorous infiltration, the only change presented is simple œdema. Unfortunately this is already infected, and extremely prone to decomposition; a small amount of such œdema in the stump will serve as a fresh source of infection. The amputation must be performed early, and higher than the œdema. Unless this can be done, the patient is lost. The operation is almost always delayed too long: the diagnosis is sometimes uncertain till too late. The patient should be seen almost hourly. The rapid spreading of the infiltration is very characteristic; purulent infiltrations, *e.g.*, after wounds of the joints or compound fractures, generally occur at a later period; *the ichorous infiltration occurs up to the fourth day after the injury, but not later.* Both cold and hot local applications appear injurious; veratrin given in large doses moderates the fever, but at the same time promotes collapse. Wine and camphor appear to be of some use. The author has never seen metastases in septicæmia. In an appendix he relates a further case in which demarcation took place on the stump, after amputation for this disease. To this chapter the author has appended some remarks on extravasation of urine and on ammoniæmia. On the former point he remarks that very various explanations of the symptoms and causes of death have been proposed, and that such cases have been included under uræmia, pyæmia, and recently acute ammoniæmia. He himself is of opinion that they cannot be referred to any of these affections, but that death is caused by the absorption of urinary constituents and of ichor together. They may be distinguished from pyæmia by the absence of metastases; from uræmia by the absence of diarrhœa, of vomiting, of gangrenous processes (except of parts suffering from the contact of the urine), and of severe cerebral symptoms. In many respects they resemble cases of septicæmia; the presence of rigors forms, however, a marked distinction. In acute infiltrations of urine the fever is generally violent, the pulse very rapid, the temperature high, the tongue very dry, and the rigors repeated.

VII. *Fever in Traumatic Erysipelas.*

The following remarks are founded on thirty-one cases. It was found that the fever often preceded the exanthem by some hours, occasionally a day or a day and a half. The disease generally commenced in the evening (twenty-eight times), rarely in the morning (three times). The exanthem generally stopped three days on one and the same place, then became pale, and desquamation commenced, whilst on other spots the exanthem was progressing. Cases, however, occur in which the redness lasts only twelve to twenty-four hours, and is followed by scarcely any desquamation. Twelve times the erysipelas commenced with a rigor, more or less marked; nineteen times without. The fever generally increased very rapidly (twenty-six times); in only five cases did it begin to rise gradually with morning remissions.

The duration of the fastigium mostly depends on that of the fever and the extent of the exanthem. A fastigium continuing for the first three or four days with a temperature above 39·5° always announces a very severe case. The temperature is usually very high for the first few days; not unfrequently on the first or second evening of the attack it is upwards of 40°. The course of the fever and exanthem is either continuous or interrupted. The fever continues, till the final defervescence, at almost the same height, and the exanthem steadily progresses (continued course); or the pyrexia entirely ceases for twelve, even twenty-four or thirty-six, hours, then recommences, lasts three or four days, then desists, and then perhaps again appears, and runs the same course; the exanthem advances or declines at the same time as the fever.

The fever lasted in—

2 Cases	1 day	4 Cases	11 days
3 „	2 „	1 „	12 „
2 „	3 „	2 „	13 „
4 „	5 „	1 „	15 „
2 „	6 „	1 „	16 „
4 „	7 „	2 „	17 „
1 „	8 „	1 „	21 „
1 „	9 „		
		31	

In twenty-one cases the course was continuous; in ten interrupted. The cases lasting a single day are worth notice; in the evening there was slight redness around the wound and violent fever, with a temperature of 40·3°; on the next morning both redness and fever had completely disappeared, and the process was concluded. In both cases an emetic had been at once administered, and the author could not help the impression that the result was really a *propter hoc*, and not merely a *post hoc*.

The defervescence is generally rapid (sixteen times); occasionally very gradual, even lasting six days (ten cases).

Excluding the ten cases with an interrupted course and five cases of death, the defervescence began in—

2 Cases on the 1st day	2 Cases on the 6th day.
5 „ „ 2nd „	1 „ „ 7th „
1 „ „ 4th „	1 „ „ 9th „
3 „ „ 5th „	1 „ „ 14th „
	16

When the patient has been from three to four days free from fever, we may be certain that the process is ended.

In the thirty-one cases death occurred five times, about 16 per cent.; it was always induced by the continued severity of the fever and by the exhaustion thence resulting. One patient died on the sixth, one on the eighth, and three on the eleventh, day. Three of these patients were old and marastic; two were young women, one of whom was affected with extreme anæmia, and the other with commencing Bright's disease. In the post-mortem examinations no metastases were found, no œdema of the membranes of the brain, nothing peculiar in the blood; the spleen was soft, but not enlarged.

In some of the severer cases albumen was found for many days in the urine. Twelve were cases of recent, and eighteen of old, suppurating wounds; in one case erysipelas of the head occurred in an old tippler, whose penis had been amputated for carcinoma; this was the only case in which it did not commence at the wounded part.

VIII. *Fever in Inflammation of the Lymphatics.*

In three cases of injuries of the hand inflammation of the lymphatics appeared on the fourth and sixth day; in two cases of injuries of the foot on the second day; in only one of these cases did it commence with a rigor; once, in a very weak patient, the temperature rose to 41·2°, in the rest the fever was not very intense; it lasted two to three days in the three cases which terminated in resolution. The defervescence was always rapid.

IX. *Fever in Trismus and Tetanus, in Injuries of the Spinal Cord and Brain.*

The author has seen two small epidemics of tetanus; in the one, which happened at Zürich, seven cases occurred in one week, at a time when the weather was very hot, the barometer extremely high, and storms most frequent.

In five cases four were acute, one chronic; nervous branches or trunks could always be seen exposed in the wound, with the exception of one case. In all these cases the author has traced the nerves for some distance, and examined them with the microscope; he could, however, find no trace of neuritis, nor, in fact, anything abnormal except slight ecchymoses in the neurilemma, which are probably caused by the muscular spasms. He failed to find the changes in the spinal cord which have been described by Rokitansky and Demme.

As to the fever in tetanus, it is severe in acute, slight or absent in chronic, cases. "Some old author, whose name I now forget, asserts that a patient with tetanus whose pulse is over 120 is beyond recovery, an affirmative statement which is, perhaps, quite true, although, on the other hand, death sometimes occurs when the pulse has not attained such a rapidity."

In four cases which terminated fatally, the temperature steadily, though not very rapidly, augmented from the commencement of the trismus to the time of death; it was at first slight, 36·6°, 38°, 38·3°; it reached in the case with the most rapid course 42°, in the rest 41·7°, 39·4°, 39°.

X. *Remarks on the so-called Hospital Miasma.*

Billroth has great doubts as to the hospital miasma about which so much is said; there is not the least proof, but that there would be an equal number of cases of pyæmia in the same number of severely wounded, whether treated in hospital or private practice; it is quite possible that the number of deaths would be the same. From a rather extensive knowledge of what was taking place in Berlin, he is convinced that there are in private practice very few cases of severe injuries or of serious operations such as occur every week in a large hospital, and that of these few a large proportion die from pyæmia. Probably conservatism is occasionally carried too far in the present day; in many cases the injury is so great, the contusion of the parts so severe, that extensive inflammation and far-spreading suppuration will inevitably occur; in these cases it is seen, when too late, that a primary amputation should have been performed; the patients sink exhausted by the fever and suppuration, or possibly from metastatic inflammations.

Impure (hospital) air has only a single effect on the tolerably healthy, that of exciting gastric disturbances, with diarrhœa, as a result of which there ensue general lassitude, a feverish condition, paleness of the countenance, loss of appetite, even long-continued gastric or intestinal catarrh. A sudden change in the accustomed food, habits, &c., may have a similar effect. Such conditions are sufficient to explain the bad symptoms presented by certain wounds without the addition of any miasm; in some such way hygienic defects, such as want of ventilation or of exercise, may cause or increase suppuration, and the latter, again, may be the cause of the pyæmia; but this explanation is essentially different from the opinion that the pyæmia is directly induced by some peculiar state of the air. Such an indirectly pernicious effect of a residence within an hospital is especially noticeable in infants.

Terrestrial influences.—Effluvia from the soil may in our climate possibly cause dysentery, typhus, or intermittent fever. If an hospital is built where such effluvia exist, of course the patients will be liable to such diseases. Every one who has studied in Vienna knows that there is one wing of the general hospital there in which every fresh patient has an attack of dysentery; at all events such was the case in 1851.

Epidemic influences.—There is another series of the so-called hospital diseases which is of a purely epidemic nature; such is especially hospital gangrene (for proofs, see Pitha, 'Prager Viertelj.,' 1851, and Fock, 'Deutsche Klinik,' 1856); such also are croup and diphtheritis. Other affections, such as thecal inflammations, may occasionally occur epidemically.

Accordingly, in the author's opinion, there are three distinct sources for the so-called "hospital miasma:"—1. Bad air in a badly ventilated hospital. 2. Terrestial effluvia. 3. Epidemic influences. These are three causes which should be especially kept in view, and which we should endeavour specially to counteract.

W. Roser refers, in the 'Arch. d Heilk.' (1862, p. 368), to Billroth's paper, and points out that in the same hospital, with the same class of patients, one year there may not be a single case of pyæmia, at other times it may commit frightful ravages, a fact proving its specific nature and miasmatic origin.

G. Zimmermann states ('Deutsche Klinik,' 1862, p. 400), in some remarks on Billroth's paper, that the temperature of the inflamed part is always one or two degrees higher than that of the rest of the body.

Professor Traube publishes some cases ('Wien. Med. Wochens.,' 1862, pp. 37, 52) to show, that fever of a markedly remittent type is often caused by the termination of an inflammation in the formation of abscess. The remittent character, however, disappears as soon as the matter has a free outlet; it is, therefore, not dependent on the formation of pus.*

WOUNDS.

A woman came to the Westminster Hospital and stated that she had had her nose bitten off by another woman about an hour previously. She brought the piece with her; it was quite black, and covered with dirt. However, Mr. Slayter washed it in warm water, and carefully sewed it on again with silver wire. In a fortnight it was perfectly attached, and had been adjusted with such accuracy, that it could scarcely be perceived she had ever lost her nose. ('Lancet,' 1861, ii, p. 422.)

Dr. E. Hervieux strongly recommends the solution of chloride of lime (one part to six or ten of water) in unhealthy, suppurating wounds, obstinate ulcers, hospital gangrene, and bed-sores. A sponge wet with it is placed on the wound, and covered with a piece of oiled silk and a bandage; this dressing should be renewed four or five times a day. Suppuration ceases, the wound becomes of a bright-red colour and without smell, finally cicatrization ensues. In a case of sloughing phagedæna about the sacrum and coccyx, which occurred in a syphilitic girl, there had been a rapid and extensive spreading of the ulcer within forty-eight hours, notwithstanding most energetic treatment (actual cautery, &c.). No further increase took place after the application of the Liq. Calc. Chlor., and ultimately the wound perfectly cicatrized. The author found the sponge to be of importance; it should be of large size, and not a mere slice. Ulcers connected with diseased bone contra-indicate the use of the solution; in some cases it may require further dilution up to fifteen parts of water instead of ten. ('L'Union Méd.,' 127, 128, 129, 1860; 42, 43, 1861; and Schmidt's 'Jahrb.,' cxiii, 328.)

BURNS.

W. Roser's article on burns ('Arch. d. Heilk.,' 1862, p. 1) is instructive. Each special means of treatment must be employed in cases, of which the course can be predicted with tolerable certainty, before any definite value can be assigned to it; for otherwise there would always be a doubt as to the part the remedy plays in the cure. The course is, however, in many cases, very uncertain, for it is only in part decided by the immediate injury, and is to a great extent dependent on the amount of subsequent inflammation. Burns heal just in the same way as other destructions of the skin; the common opinion that their cicatrices contract to a peculiar amount is without foundation. Such contractions to an extreme degree were found in practice to be almost always the result of burns; hence the conclusion was too hastily drawn that great contraction is a special quality of the cicatrices after such injuries; the real reason being that the skin is rarely destroyed to a great extent except by burns. As influenced by the depth of the burn, four principal methods of healing may be distinguished:—1st, simple reproduction of the epidermis, often in a very short space of time, in cases where the deeper layers of the skin have been uninjured; 2nd, formation of granulations, of a net-like appearance, by the superficial layer of the skin, followed by a rapid formation of epidermis; 3rd, formation of granulations by the deeper layers of the skin, followed by very slow cicatrization; 4th, formation of granulations and cicatrization by the subcutaneous cellular tissue, the healing being much promoted through dragging in of the surrounding skin by the contracting cicatrix. The second form occurs where the deeper layers of epidermis or epidermis-producing tissue are not destroyed, and may be recognised by the peculiar net-like appearance presented by the surface after removal of the slough, little red granulations projecting from a whitish or yellowish ground. Cicatrization is rapid in such cases because the epidermis has thousands of points from which to spread. The third method of healing is the slowest; the epidermis only spreads from the margins, and there is little or no diminution of the wound by contraction of the cicatrix.

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* Thermometers constructed specially for use in hospital practice may be obtained for a few shillings from G. M. Leyser, Mechan., Leipzig, through Mr. Thimm, Bookseller, 3, Brook Street, Grosvenor Square, London; each degree from 29° to 47° is divided into five parts.—T. W.

The subsequent inflammation often causes a secondary destruction of the skin by purulent infiltration, by ulceration, or, as Roser has seen in a number of cases, by a second layer becoming gangrenous in consequence of fibrinous infiltration after the first layer of the skin had been eliminated. In the treatment these points should be kept in view; the discharge of the slough should be promoted, the wound should be protected from external irritation, the inflammation should be prevented or alleviated. In the first and second variety cotton-wool for two or three days and then cold applications are, perhaps, the best; in the third and fourth forms Roser has often found adhesive plaster very serviceable when the wounds were granulating, especially for regulating the mode of contraction. He has also had some surprising results from the treatment of contracted cicatrices by strips of adhesive plaster; he found that, even when extremely tense, they yield to the pressure, and gradually extend. The strips should be so applied as to both extend and compress the cicatrix at the same time.

Professor Hebra publishes a case of burn treated by the constant immersion of the whole body in warm water ('Allg. Med. Zeit.,' 1861, No. 43, 44). He considers that maceration of the epidermis is of great importance in many affections of the skin; he remarks that the varioloid eruption is much less severe and much more rapid in its course upon the mucous membrane of the mouth and throat than on the skin, a difference which he refers to a considerable extent to the constant maceration. He considers that burns and scalds present most marked indications for the warm-water treatment; the object being—1st, to induce maceration of the sloughs; 2ndly, to prevent the deleterious action of matters produced by decomposition of the sloughs and of the pus; 3rdly, to spare the patient the intense pain which arises from changing the dressings, from accidental rubbing or exposure of the part; and, perhaps, 4thly, to obviate the rapid loss of heat by the body which is brought about by the removal of the epidermis, whose office, as a bad conductor, is to regulate the radiation of heat from the body in health; this measure is readily effected by bringing the surrounding medium to a warmth corresponding to that of the body. It had especially to be determined how long a sick or healthy individual could be kept in the warm bath without injury, and what would be the influence of this treatment on the general organism.

The bath he employs is six feet in length, three feet in breadth, and can contain about two hundred gallons of water. An iron framework accurately fits its interior, and supports girths similar to those of an ordinary bed, on which a woollen coverlet is stretched, and covered again by a linen sheet. About two feet from one end of the frame a support for the back is attached, which moves on a hinge, and which, by means of a simple piece of rack work, can be fixed, like a music-desk, at any angle that is most comfortable to the patient; this support has a woollen covering and also a horsehair bolster. The whole bed hangs suspended in the bath by bands fixed to two small rollers placed at the head and foot, so that it can be raised or lowered at pleasure. At the head of the bath, and standing higher than it, is a copper boiler, by means of which the temperature can be kept at any degree desired. The supply pipe enters the bath at the bottom the escape pipe leaves it at the water level; when the bath is in use, the stream is constantly running, and all impurities are thus rapidly washed from the surface.

On May 27th a washerwoman, æt. 38, was admitted into the hospital, extensively burnt, from her clothes having caught fire on May 19th. On the calves of both legs there were wounds eight inches long by five broad; on the sides of the legs, on the buttocks and back, were others. Most of the sores were still covered with firmly adherent sloughs. The knees were bent, the thighs drawn up; she could neither stand, sit, nor lie down straight; she was crying from the intense pain, and screamed whenever her wounds were touched. The pulse was 120. On the 28th she was weighed (110 lbs. avoird.) and placed in the bath, which, according to her wish, was kept at 30°R. (= 99·5 Fahr.). An hour later she could stretch her legs, and the pain had disappeared. She continued well up to the 1st of June, when she had an attack of epilepsy, a disease to which she had long been subject; these attacks recurred occasionally, and were treated with atropine. The most striking phenomena took place in the first forty-eight hours after immersion; the pulse fell from 120 to 80, the thirst became less, the appetite greater. The sloughs were thrown off, and the wounds commenced cicatrizing from the margins. She remained constantly in the water, without the least injury to her health, till the 18th of June (504 hours); the temperature had, however, been gradually lowered to 25° R. (88·25° Fahr.) At that period only the centre of the wound, of about the size of a half-crown, remained uncicatrized; it soon healed.*

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* Many years since, we convinced ourselves by a series of comparative experiments, that there was no treatment for the collapse which generally accompanies severe burns so efficacious as the warm bath. In our cases the pain at once disappeared, and sometimes did not return, the pulse improved, and the countenance lost its anxious and sunken cast; the bath was, however, never continued for more than an hour. We have

M. Nélaton relates a case of incontinence of fæces in consequence of a burn ('Brit. Med. Journ.,' 1861, ii, 414). In the region of the anus there was a hole, with resisting edges, placed in the centre of a cicatrix. When the finger was introduced, the opening was found to be inert, and the finger passed into a cavity containing fæcal matter. This cavity was not that of the rectum, but an accidental vestibule; and the true anus, with its sphincter, was found lying above the apparent one. He recommends in such cases to lay open the false anus. Dr. Gibb relates a case in which the belly was so enormously distended from the effects of a burn, that the abdomen was opened as soon as life had ceased, under the supposition of pregnancy ('Trans. Lond. Path. Soc.,' xiii, 98).

Plastic Operations for Cicatrices of Burns.

"R. P—, æt. 17, burnt the anterior part of the arm when a child; the result was a large web of cicatrix extending from just below the shoulder-joint to the lower part of the forearm. He could extend his forearm so that the elbow made an angle of 90°. The new tissue was so wide that I did not divide it at once, but made a hole through it, and after dissecting up a long flap from the outer part of the forearm, I passed it through the aperture I had made, and attached it to the edge of the hole by many sutures. The flap united in a great part of its extent and when it became tolerably adherent I divided the rest of the cicatrix, and it healed satisfactorily. The boy could extend his elbow-joint, when he went out, to an angle of 135°; and as the flap was stretching favorably, there was every prospect of further improvement." (Mr. Prichard, 'Brit. Med. Journ.,' 1862, i, 358.)

Mr. Butcher has published a new method of treating cicatrices ('Dub. Quart. Journ.,' xxxiii, p. 1), which he illustrates by a case in which the head was drawn towards the shoulder by a large cicatrix. A curved incision was carried along the shoulder for a considerable distance around the cicatrix, but in healthy integument, and the flap was then dissected upwards. The relief being insufficient, Mr. Butcher introduced a long, narrow-bladed, straight bistoury through the tissue of the cicatrix, at the base of the flap, and thrust it upwards, subcutaneously along a prominent band. "As the instrument was forced upwards, great precaution was used to prevent its point injuring the integument in the long track of from four to five inches; the instrument being introduced upon the flat, its edge was now made to cut down freely from the integument the cicatrical tissue by cautious, gentle movements. This being extensively and effectually done on the posterior side of the prominent ridge, the edge of the bistoury was then turned anteriorly, and a similar manipulation carried on. The edge of the instrument was next turned directly backwards, and the cicatrical tissue scored freely, by repeated incisions from before backwards and above downwards, throughout its entire extent. To facilitate and render more guarded and certain the action of the bistoury, the index finger of my left hand, placed outside the integuments, followed it

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no hesitation in stating our belief that life would be generally prolonged, and not unfrequently saved, were this treatment generally adopted in severe scalds and burns.—T. W.

everywhere, and made additional pressure where requisite; thus, from the consent of action between the two hands, the incisions were perfected with as much accuracy as if exposed to view. Again, as the bistoury worked inside, the index finger of the left hand assisted to separate, to press out, to unfold, as it were, this matted structure. The result of all this subcutaneous proceeding was rendered manifest by the relaxation and flattening of the vicious growth; and on the bistoury being withdrawn the flap lay as flat upon the upper and middle part of the neck as the healthy integument did at its base." The result was very satisfactory; seventeen months after the operation there was no tendency to a recurrence of the deformity, the movements of the neck were free and graceful, the shoulder in its natural position, and the cicatrix of the wound caused by the operation could be entirely concealed by a high dress.

SUPPURATION AND ABSCESS.

Deceptive Fluctuation.—M. Nélaton took the opportunity afforded by the admission of a man, who had received a severe injury of the forearm, to point out to his class an error which is frequently committed, and against which it is well to be prepared. The injury in question had been produced by a circular saw, revolving three or four hundred times in a minute; the skin, the superficial muscles, and the tendons had been divided, but neither the vessels nor the nerves had been seriously compromised. The wound had been brought together by points of metallic suture, but, as usually happens in such cases, union had not taken place. In fact, when the muscles, the tendons, and the sheaths are divided, we should not attempt to bring about union by the first intention, as we shall fail in our endeavour, and may expose the patient to serious accidents. In the patient in question the dorsal surface of the hand was considerably swollen, and fluctuation seemed so distinct, that many persons would have supposed the swelling to be occasioned by a collection of purulent fluid. This was not the case, and M. Nélaton pointed out that there are various parts of the body where the tissues impart a deceptive sensation of fluctuation. In the upper extremity these parts are the dorsal surface of the hand and the upper and external part of the forearm on a level with the head of the radius. Without a knowledge of this fact we should be very apt, on the occurrence of a swelling in either of these regions, to introduce an instrument which would give issue to no fluid but blood. The same error has been committed a hundred times in the case of imaginary collections of pus in the substance of the calf of the leg, as well as in the upper and outer part of the thigh, in the situation corresponding to the tensor vaginæ femoris. Another locality where this deceptive fluctuation occurs, is the inner and upper part of the thigh, on a level with the iliacus and psoas muscles. ('Journ. de Méd. et de Chir. prat.,' and 'Edin. Med. Journ.,' viii, 67.)

Diagnosis of abscess in the perinæum ('Edin. Med. Journ.,' vii, 814).—In treating these cases, Mr. Syme said, that wherever there were symptoms of difficulty and pain in making water, and the perinæum was seen to be at all prominent, a careful examination should be made with one finger in the rectum and another placed over the tumour in the perinæum, as this was the only certain means of detecting fluctuation; and that if the presence of matter was then ascertained, an incision, deep if necessary, should be made in the centre of the perinæum. This incision should be made early, otherwise most serious and troublesome effects will result, by the formation of fistulous communications with the urethra, rectum, and the tissues around the perinæum.

On the treatment of pelvic abscess (*perimetritic*), by W. Roser, ('Arch. d. Heilk.,' 1862, p. 282).—These abscesses are most frequently seated in the cellular tissue of the broad ligaments of the uterus; they then appear as painful inflammatory swellings just above Poupart's ligament, and most often make their way along the femoral artery, in the track of a psoas abscess. This course, often followed by nature to the great benefit of the patient, may be imitated by art; Poupart's ligament is laid bare near the femoral artery, and by the introduction of a director or dressing forceps into the femoral ring, with a little forcible extension by opening the forceps, an aperture is made for the pus. No further treatment than, perhaps, the occasional introduction of an elastic catheter, is usually required. Roser states that he has repeatedly described, and for more than ten years practised, this method of opening deep-seated abscesses in every part of the body.

Erysipelas.—M. Cornil treats at length on erysipelas of the pharynx ('Arch. Gén.,' 1862, i, 257); he describes three forms, one with simple redness, one with phlyctenæ, and one ending in gangrene.

ULCERS.

Dr. Lücke publishes a case of ulceration, which he attributes to the disintegration of fibro-plastic tissue; he thinks some cases of rodent ulcer may be owing to this cause (Virchow's 'Archiv,' vol. xxiv).

Mr. Houghton ('Brit. Med. Journ.,' 1862, vol. i, pp. 91, 129) can, from four years' constant experience, speak confidently of the importance of Mr. Hunt's method of treating varicose ulcers without rest. He generally applies a few strips of soap-plaster to the ulcer, and then a flannel bandage from the foot upwards. The advantages of flannel over calico for the bandage are, that it is sufficiently elastic to give uniform support and sufficiently rough on the surface to prevent it from slipping and getting displaced. Mr. Houghton has known the roller, when well applied, remain three weeks without moving, the patient having neglected to attend during that period. He cautions, however, the patient to sleep with a thin stocking over the roller, as otherwise it gets kicked off in bed. He has recently found that domette has some advantages over flannel. It is much lighter, it is equally tenacious, it is sufficiently strong and elastic, and, what is of some consequence, it is about a quarter the price. It has been previously recommended by Messrs. Spender and Startin. The roller should be accurately made, and in one piece. Mr. Houghton gets eight yards of domette, and has it washed; he then cuts the rollers himself, measuring the width of each accurately with a rule; they should be two and a half inches wide. He gives in corroboration four cases, one of which might be regarded as an *experimentum crucis.* A large varicose ulcer, four inches by three, covered with an ash-coloured secretion, surrounded by elevated granular edges, very painful, and throwing off an ichorous discharge, and which had existed thirty years, in spite of residence in some of the first hospitals in the kingdom, was perfectly cured in eleven weeks. The patient walked twelve miles each time he was dressed, and four every day to and from his work, and followed his occupation as gardener throughout the treatment.

Dr. J. Rochard publishes a full account of the extraordinary "Cochin-china ulcer," which prevailed so extensively among the men of the French expedition to that country, there having been the large number of seven hundred cases in a force of five thousand six hundred. It in many respects resembled hospital gangrene, but differed in other and important particulars. Both the ulcerations and the surrounding tissues for some distance became anæsthetic; and its obstinacy was so great that of eight cases which had been invalided to France, and of which Rochard had taken notes, one recovered after amputation, one cicatrized, and the remaining six resisted all treatment. ('Arch. Gén.,' 1862, i, 667.)

Pyæmia; Septicæmia; Hospital Gangrene.

The present theories on pyæmia may be divided into two classes, the mechanical and the chemical. According to the latter, this affection is caused by the passage of certain fluid or gaseous substances into the blood; although this theory is probably correct in regard to one class of cases, still no perfectly certain proofs have been found for it either by clinical or anatomical observation. According to the mechanical theory, emboli are mechanically produced by pus-corpuscles or by coagula in process of disintegration. E. Wagner has, however, in six cases found capillaries distended with fluid fat ('Arch. d. Heilk.,' 1862, p. 241), and from his very careful examinations he believes that in many cases the changes consist in embolism of the smaller arteries and capillaries with fluid fat, which has passed, most likely, from the primary centre of suppuration into the circulation, has been to a great extent arrested in the pulmonary capillaries, in part, however, has escaped through them into the arterial capillaries of the general circulation. In this way emboli and metastatic abscesses are produced, either in the lung or in the rest of the body.

Dr. Bristowe, at the Pathological Society of London, brought forward a case of pyæmia in connection with acute necrosis ('Trans. Path. Soc. Lond.,' xiii, 188), without any external wound. He had seen seven or eight such cases. In most of them the pericardium and heart were involved, and the patients were usually young.

Professor Schuh defends at great length the doctrine that pyæmia is caused by purulent infection ('Med. Jahrb. Zeits.,' &c., 1862, ii, p. 16). He himself was in Germany one of the first to explain the rigors after surgical operations by the passage of pus or of products derived from its decomposition into the blood. The whole morbid state was soon generally considered to be produced through absorption, and such an opinion continued to prevail till quite recently, when some writers began to use pyæmia only as a collective name of different conditions—of leukæmia, of septicæmia, of thrombosis and embolism, and of ichorrhæmia. At length some went so far as to deny altogether secondary pyæmia, or that form caused by self-infection from purulent inflammations, considering it as a miasmatic disease caused by external influences. The author considers hectic fever to be a chronic form of pyæmia.

Mr. P. Hewett gives a brief outline of the cases of recovery from pyæmia which have fallen under his notice—ten in all; out of which the purulent infection was in six confined to the outer parts, and in four it showed itself in the lungs as well as in the outer parts, in two in the shape of lobular pneumonia and in two in that of large abscesses, which burst. ('Brit. Med. Journ.,' 1862, i, 273.)

Pyæmia occurs for the most in hospital practice; but it occurs also, and that more frequently than is usually supposed, in private practice, and in the country as well as in large towns. Of cases occurring in private practice he has known thirteen—with gonorrhœa, one; with suppuration about the gums, one; with suppuration in the tonsil, one; with suppuration in the ear, one; with suppuration about the shoulder, one; with a whitlow, one; with carbuncle, two; after typhoid fever, two; after operations, three, in two of which the operation was very trifling. In all these cases the patients were in easy circumstances; four lived in the country, and the others in healthy and well-drained parts of town.

Pyæmia is now much less frequent in the wards of St. George's Hospital than it used to be. Indeed, for the last two or three years the wards have been remarkably free from this, the bane of surgery. This improvement, there is no doubt, is mainly attributable to the convalescent wards, the large, well-aired rooms which have lately been built at the top of the hospital. These convalescent wards are of the utmost use, not only to the patients who are thus enabled, in all weathers, to get out of their own wards, but also to those who may still be obliged to remain in bed. The general ward is relieved of a certain number of patients during a great part of the day, and both sets of patients thus have a purer atmosphere to breathe.

In the general treatment of purulent infection the main features are that the strength should be kept up in every way and the nervous irritability allayed. Rum and milk in the early morning, strong animal broth from time to time, and stimulants, wine or brandy, according to circumstances; an opiate at night, and sometimes during the day; such are the remedies which Mr. Hewett has found to answer best in purulent infection. He cannot say that he has found medicines, save opiates, to be of any use in this terrible disease. He has seen all and every kind of medicine fairly tried, and the patients have died; and he has seen even bad cases—cases in which the internal organs have been seriously implicated—get well under the treatment just mentioned. The patient must be carefully nursed, and the stimulants and support given at stated intervals, and in quantities measured according to circumstances.

Locally, the abscesses should, as a general rule, be opened as soon as possible; but in dealing with joints, this rule requires some caution, for in practice cases are now and then met with, in which there may be great pain and swelling, and even redness of the skin, on the side of or around the joint, with marked effusion in the joint itself, and yet all these symptoms may subside; the fluid disappears, and the joint is, in course of time, more or less completely restored. Mr. Hewett has seen this in three or four instances about the knee, in which there remained stiffness and even contraction for a time, but in the course of a few months the joint was as supple as ever, and has remained so.

A young cavalry officer, strong, very active, and apparently in excellent health, whilst under treatment for gonorrhœa was suddenly seized with what is commonly called gonorrhœal rheumatism. Several joints became involved, and for some time matters went on much as is usual in such cases; but then came rigors, with symptoms of a low typhoid character. Shortly afterwards the body was covered with a crop of pustules, several small abscesses formed in various parts of the trunk and limbs, and suppuration took place in and around the left sterno-clavicular articulation; the matter was let out. Subsequently the right hip put on all the characters of deep-seated suppuration, and the joint became so exquisitely painful, that the slightest vibration, even from a person walking inadvertently across the room, caused the patient to shriek. Extreme emaciation followed; and notwithstanding all means and appliances (a water-bed he could not bear), the skin gave way in several places—in fact, wherever pressure occurred; first over the sacrum, largely exposing the bone; then over the left trochanter, over the ischiatic tuberosities, and subsequently over each of the more prominent spinous processes of the vertebræ, as his position in bed was, from time to time, varied. For weeks this patient struggled between life and death; then he began to rally, the fluid about the right hip gradually disappeared, and he ultimately got well, but with anchylosis of this joint. Several years have elapsed, during which he has enjoyed most excellent health, and has been able to do good service with his regiment both in the Crimea and in India.

A young lady has measles, and discharge from the left ear followed. She was up and about, when she was seized one day with a violent rigor, and then came symptoms of a low, typhoid character. Mr. Hewett saw her four or five days after the ushering in of those symptoms. The skin was then of a dusky hue throughout, the typhoid symptoms well marked, and there had been a second rigor the day previous; the discharge from the ear had stopped from the first; there was no pain in the head and no pain nor swelling about the ear or neighbouring parts, but there was tenderness upon pressure along the course of the left internal jugular vein, and some slight swelling with pain over and around the left sterno-clavicular articulation. The swelling increased, and in a few days a large abscess formed; the matter was speedily let out; then came lobular pneumonia of the left lung; intense pain on the inner side of the left knee, with some puffiness of the joint itself; similar appearances followed about the corresponding ankle-joint; and finally an enormous abscess formed in the neighbourhood of the left hip-joint; this was deeply situated, but as soon as practicable the matter was let out by a free incision. From this time the symptoms began to mend, the lung affection subsided gradually, and so too did the pain and swelling about the knee- and ankle-joints. After a lingering illness of many weeks the restoration to health was perfect, and so it has remained for upwards of a year and a half.

W. Roser, in an article ('Arch. d. Heilk.,' 1860, iv, and Sachs' 'Alman.,' 1862) on the treatment of pyæmia, gives several cases of recovery; amongst others one in which the delirium, which had been present for a number of days, ceased immediately on the administration of morphia in grain doses. He advises the simplest possible dressing of the wounds; no charpie, no useless bandages. Another interesting case of recovery from pyæmia with chest symptoms is recorded by Mr. Butcher ('Dub. Quart. Journ.,' xxxiii, p. 22); the treatment principally consisted of mercury, opium, and stimulants.

Professor Jüngken delivered an address on the treatment of pyæmia and hospital gangrene ('Allg. Med. Centralzeit.,' xxx, 67). These diseases, he said, are more easily prevented than cured. For prevention, we require the most scrupulous cleanliness and the most thorough ventilation, matters that should always be attended to in the treatment of the wounded, but especially where great numbers of such cases are crowded together in confined wards. Cleanliness and ventilation form, however, the foundation of our treatment when the disease has already made its appearance. Where the surgeon has the choice, he should avoid the reception of a large number of severely wounded into one room. Large wards are little suited for surgical cases, especially for those attended with suppuration; they too readily become hotbeds of pyæmia and hospital gangrene. Where there are no special means of ventilation, the doors and windows should be opened, even though the patients suffer from the cold. Frequent baths are of great service. If the wounds are severe or attended with much suppuration, the permanent bath is very useful in preventing these diseases; the water should, however, be often changed, so as not to become too much charged with pus. Wherever local baths can be applied, they should be used; otherwise a hip or a general bath must be employed. As to the local baths, the professor condemns such as are furnished with caoutchouc rings, through which the limbs pass, to prevent the water from flowing out of the bath; for then the india-rubber rings must fit the limb so tightly as to compress the veins, thus impeding the circulation and inducing sundry evil results. If the bath is to be really of use, the limb must be quite free in the water, without any unpleasant pressure. Fumigations with chlorine and vinegar are only slight palliatives, which may be employed when, for some reason, fresh and pure air cannot be obtained; those with chlorine are the best, but they are far inferior to fresh air, and, besides, in many cases they act injuriously on the lungs, indeed, cannot be borne.

As wars are generally carried on during the warmer periods of the year, it is at the same time that the greater number of wounded have to be treated; and as the locality of great battles often depends upon unforeseen events, the surgeon generally finds himself under the necessity of providing accommodation for the wounded in quarters quite unsuited for the purpose. At that time of the year, fortunately a very important means, not only of preventing these diseases, but also of treating them when they break forth, is yet available—it is the use of the air-bath, in other words, placing the wounded in the fresh air, under an open, linen tent-roof. There is no specific remedy for hospital gangrene; none that, exclusive of all others, can effect a perfect cure; even the most powerful, the actual cautery at a white heat, is not sufficiently potent. It matters not how deeply the wound is cauterized,—if the patient is left in a contaminated atmosphere, there will still be a gangrenous ulcer when the slough comes away.

The air-bath is just as important in pyæmia as it is in hospital gangrene, especially if the patient can be placed under foliage, the exhalations from which are well known to have a very beneficial effect. In many desperate cases of these diseases, where every means had been employed in vain, and the patients seemed past hope, an immediate change for the better was perceived when Professor Jüngken had them taken out of the hospital into the gardens, where they were placed on a simple couch, covered with a blanket, and left in the open air for the rest of the day under the rich foliage of the beautiful plantains. From that very hour remedies took effect which had been previously employed in vain, and in this way cases of severe injury were saved which otherwise would certainly have been lost. Professor Jüngken found a striking confirmation of these views during the revolution (May, 1849) in Dresden, when a sanguinary street-fight took place between the insurgents and the soldiers. Many of the revolutionists were wounded, some very seriously. They were placed in the palace of Count Marcolini, in which the saloons were furnished with very large windows, opening like doors into a beautiful garden filled with splendid old lime trees. Whenever the weather permitted, those most dangerously wounded were carried on their beds into the garden, and spent the whole day under the trees. The results were strikingly favorable; perhaps no other hospital ever had such brilliant success. Better is it for a patient to shiver a little in a cold but pure air, than to die in a warm but poisoned atmosphere.

Another point of importance is to prevent any intercourse between those affected with hospital gangrene and others. The bandages and instruments which have been employed for gangrenous wounds ought not, if possible, to be employed a second time; nor should bandages, linen, or clothing, be prepared or kept in rooms where infected patients are lying. Frequent change of the bedding, blankets, and linen, is also of the greatest utility where these diseases have already broken out.

Among the large number of local remedies which have from time to time been recommended for hospital gangrene the more effective are perchloride of iron, pyroligneous acid, chloride of lime, hydrochloric acid, pulverized carbon, with chloride of zinc, myrrh, and camphor (℞ Carb. Lign. til. ℥j, Myrrh. ʒj, Camph. Ras. ʒss, Zinc. Chlo. gr. v; M., ft. pulv.), and chloride of zinc in solution. These medicines have not the same effect at all times; there are periods in which chloride of lime is particularly effective, and when no other remedial agent will answer the purpose; at other periods it entirely fails, and charcoal or pyroligneous acid produces good results, so that it is probable that, in spite of the similarity and even apparent identity of symptoms observed, there must be some peculiar differences in the several epidemics of hospital gangrene, which cannot be as yet distinctly recognised, but only suspected, from the success or failure of certain remedies.

There is only one remedy for this terrible disease, which never fails in its action, provided it is properly used and the hygienic conditions are favorable; this is the actual cautery, which has of late been unjustifiably neglected, but which is believed by Professor Jüngken to be the only certain and reliable means for destroying the peculiar and dangerous contagion of hospital gangrene. To neglect the actual cautery is not only to do harm to the infected patients, but also to those not yet attacked, for milder means are insufficient to prevent contagion and further contamination of the surrounding atmosphere. There is now the less reason for the surgeon to hesitate in the employment of the actual cautery, as chloroform can be used to prevent all suffering during the application. In its use there are six points to be remembered:—1. The iron must be brought to a white heat; a less degree causes unnecessary suffering. 2. It must be employed as early as possible; best at the very commencement of the attack, to crush the disease in its bud, for then it is both safe and easy to destroy every particle of gangrenous tissue, to excite a plastic reaction in the healthy fundus, and yet only to cause a moderate loss of substance. If, however, the gangrene has already made some progress, if it has been of some duration, then—3. The whole of the gangrenous surface must be laid bare, sinuses and canals must be carefully laid open, dead portions of some size must be removed by the scissors or knife, the wound must be most carefully cleansed of all tissue which is already dead or disintegrated, and perfectly dried by lint, sponge, or dossils of cotton-wool, so that the cautery may act on a clean and dry surface. 4. It must be applied especially to the edges of the ulcer, and everywhere it must penetrate to healthy tissue, in order to excite regenerative action. 5. The patient must be at once removed from his chamber, and placed in a pure atmosphere; best, in the open air; where that is not possible, in a room in which there are no other patients, and where, day and night, he is exposed to fresh air blowing through the open windows; if even the latter plan is impracticable, he must at all events be placed near a window which is open day and night; even in cold, rough weather he must be placed by an open window. 6. The elimination of the slough must be left to nature, and not promoted by warm fomentations or poultices, which relax the parts too much and favour relapses. In this way the slough will be thrown off a little later, but the reaction will be greater, the granulations more abundant, and cicatrization more rapid, especially if gentle irritants are applied to the ulcer. These local means must be assisted by suitable dietetic and pharmaceutical treatment; the great point is to keep up the patient's strength; all medicines that promote disintegration or weaken the patient, especially mercurials, should be carefully avoided; the bowels should be kept regular by mild aperients.

Mr. Paget can find but one thing which he can call remedial for pyæmia, and that is a profuse supply of fresh air. In the three most remarkable recoveries he has seen, the patients might be said to have lain day and night in the wind—wind blowing all about their rooms ('Brit. Med. Journ.,' 1862, ii, 161). Mr. Paget has also noticed a relation between rigors and convulsive disorders; thus, three years ago he cut a gentleman for stone; shortly after the operation he had a terrible rigor, and this was followed by great heat and sweating, and then by extensive suppuration in the cellular tissue over his chest. Again, some days after, another rigor occurred, and this was succeeded by a similar suppuration and by other symptoms of pyæmia. Then, some days later, he had a severe epileptic seizure; and this was followed, in the same time and the same way as the rigors had been, by another suppuration. Then, after phlebitis and other mischiefs of pyæmia, he gradually recovered, and has had no cerebral disturbance since his recovery. A case of septicæmia fatal in twenty-seven hours (thirty-one hours after operation) is also related.

Dr. G. Polli has published some researches on diseases depending on morbific fermentation and their treatment ('Dub. Quart. Journ.,' vol. xxxiii, p. 367). Among such diseases are classed almost all the more fatal maladies, such as typhus, puerperal fever, glanders, septicæmia. He injected into the veins of dogs putrid pus, putrid blood, and the discharge from the nose of a glandered horse, and came to the conclusion that thus very serious and well-marked forms of disease can be produced, exhibiting all the general characters of catalytic diseases (diseases caused by specific ferments in the blood). He also found that sulphurous acid, not only alone, but also in combination with earths and alkalies, possesses in a supreme degree the power of arresting all known organic fermentations and putrefactive metamorphoses of animal solids and liquids; that these salts could be administered to dogs for lengthened periods and in large doses; thus a dog about 16 lbs. in weight took for fifteen successive days as much as ten grammes (154 grains) of these salts daily. He also made sixty-eight comparative experiments. One half of the dogs experimented on were left to the effects of the poisonous injections without any remedy being administered, the other half were treated with sulphites. The results were decidedly in favour of the latter. At the London Hospital a case of hospital phagedæna, under Mr. Hutchinson, was cured by the submersion treatment. In three days the sore was clean, and in ten healing was so rapidly advancing that the bath was no longer required. There could be no doubt that the improvement was really due to the use of the bath. ('Med. Times and Gaz.,' 1862, i, 8.)

Gangrene.

M. Raynaud had his attention called to a peculiar form of this disease ('Gaz. des Hôp.,' 1862, p. 285), by the case of a woman æt. 27, in which all four extremities were unexpectedly attacked by dry gangrene. Further researches showed him that this affection differed in some respects from the senile form, which it in general resembles. It has a remarkable tendency to be symmetrical; thus it attacks at the same time the two lower or the two upper, or even all four, extremities—in some cases the ears or the nose. He refers it to defective innervation of the capillaries; the presence of venous blood, or, in other words, a deficient supply of oxygen being the immediate cause. It commences insidiously, is attended by violent attacks of pain when fully developed, and generally ends by elimination of the slough and spontaneous cicatrization. It differs from senile gangrene by its attacking symmetrical parts, by its more circumscribed nature, and by the absence of any appreciable change in the neighbouring arteries. M. Laugier (ib., pp. 230, 274) was induced by these researches to try oxygen baths in two cases of dry gangrene, both occurring in aged men, but unattended by any signs of obstruction in the arteries. Both cases progressed favorably.

Dr. Wilmot describes as acute gangrene ('Dub. Quart. Journ.,' vol. xxxiii, p. 311) the disease which we have already noticed in our abstract of Professor Billroth's paper (see the portion on septicæmia). He distinguishes, however, two forms—that of the subcutaneous and that of the deep cellular tissue. The former is comparatively easy of recognition; it should be treated by amputation at an early period, and high above the disease. In acute diffused gangrene of the areolar tissue following compound fracture of the leg, amputation cannot be resorted to with any solid prospect of success, unless it be performed above the knee, and before the parts there have participated in the gangrenous action, and also before the vital powers have commenced to give way. In the second form the disease makes its progress so stealthily, though rapidly, and not until far advanced causing any alarming disturbance of the system or any very broadly marked local change, that the unobservant or inexperienced practitioner may be completely deceived, and fail to recognise the real state before fatal symptoms are presented. Death is induced by poisoning of the blood from absorption of putrid serum, and this event is quite compatible with a very limited extent of gangrene.

The earliest notice that this kind of gangrene has commenced is given by the wound on the third or fourth day from the receipt of injury. The lips pout, are thick, and present a peculiar waxy appearance, and along their margin a narrow vesication arises. There is no suppuration, and the parts would be perfectly dry if it were not for the escape of some fetid, brown serum, which wells up from between the broken fragments. This condition of the wound is certain evidence that gangrene of the areolar tissue around the broken fragments has set in. At this period there is but little general disturbance; the pulse ranges from 80 to 90, soft and full, and the patient does not exhibit signs of much prostration; the constitutional character, however, of the change that has commenced is shown by the jaundiced hue of the skin and conjunctiva, which is always apparent, and the irritability of the stomach, accompanied with sour eructations.

In less than twenty-four hours from the supervention of the symptoms just described the patient's fate is decided. Sometimes suppuration soon sets in, and the slough of areolar tissue escapes with the pus, or through the medium of an abscess formed in some part of the limb; all then goes on satisfactorily. Usually, however, this happy change does not occur; the wound opens out more, the lips become further everted, a bluish line is perceptible where the vesication had existed, and the fetid, serous discharge increases, in some instances, to such an amount as to saturate the bandages and the bed. As these changes proceed the patient complains of less pain, until at length it is altogether absent. The most striking local feature now, and one which makes the case contrast with gangrene of the subcutaneous cellular tissue, is the total absence of any doughy tumefaction; indeed, from first to last there is neither tension nor swelling of any kind, except some puffiness around the wound; even crepitation, which can only be elicited by very firm pressure, is not always present. No sloughing of the skin beyond, at least, the margins of the wound, or what may be the result of the previous mechanical violence, is ever observed in uncomplicated cases of this kind of gangrene. The appearance of the wound, and fetid, serous discharge at first, and later the constitutional symptoms, are the only means whereby we can recognise sloughing of the deep areolar tissue and the consequent blood poisoning. When the wound gives unequivocal proof, by the fuller development of these symptoms, that all hope of suppuration occurring is at an end and the gangrene is spreading, the constitutional symptoms undergo a serious change, and evidence is quickly afforded that the blood has become poisoned to a fatal extent. The pulse, before soft and full, and not exceeding 90 beats in the minute, becomes quick and weak; the vomiting is incessant, being accompanied by hiccough, or, what is worse, a sort of gulping effort; there are insatiable thirst, a dry, brown tongue, and a tympanitic state of the abdomen. The yellowness of the skin gains a deeper tint, the features are contracted, and there is a peculiar sunken expression of countenance; the point of the nose, the lips, and one or more other spots on the face, especially over each malar bone, present a congested appearance, and this, mingled with the general yellowness, gives that remarkable leaden hue which was so much looked to by the older surgeons, being considered by them characteristic of gangrene. As time goes on the fatal symptoms advance. The pulse becomes irregular or intermittent; the patient falls into a cold, clammy sweat; he complains of a sense of constriction across the præcordium, which is sometimes most distressing; there are jactitation and muttering delirium; yet when roused he will in general answer questions rationally, and is often able to raise himself in bed and take some drink. Soon, however, coma comes on, and in a couple of hours closes the scene, not more than thirty-six hours having, as a general rule, elapsed from the first announcement given by the wound that gangrene of the areolar tissue around the broken fragments had commenced.

The most characteristic local feature, apart from the aspect of the wound, is the absence of swelling, the limb being, to the last, rather soft and flaccid than otherwise; the most prominent general symptoms are the incessant vomiting, the yellowness, and later the leaden shade of the skin of the face, and the abruptness of the supervention of fatal symptoms. In this form amputation is only of use as a measure of anticipation, for it is obvious that, once the general symptoms give evidence of thorough poisoning of the blood, removal of the source of mischief comes too late. Yet to operate before all chance of suppuration being established and the gangrene arrested has passed would be most unjustifiable, hence close watching and great preparedness are called for. After the wound has made the first declaration that sloughing has commenced, however feebly the signs may be manifested, however slight the change, the greatest vigilance is demanded from the surgeon; and if, in a short time, the local features should be more strongly marked, and the pulse become quicker and weaker, and the irritability of stomach continue, we should, without delay, resort to the operation. By temporising we only give time for the morbid poison to be absorbed and to produce its deadly effect upon the brain and other vital organs. Still, even though the operation be performed at the most appropriate moment, the chance of success it offers is so indifferent as to make it imprudent for the surgeon to urge it too strongly upon the patient or his friends, should he or they exhibit much hesitation in yielding consent.

At the French Surgical Society, M. Broca related a case of compound fracture of the leg ('Gaz. d. Hôp.,' 1861, p. 231), which was followed on the next day by considerable emphysema; amputation was performed through the leg, but quite above the emphysema; nevertheless there ensued gangrene of the stump, with repeated rigors, and death eight days later. From the succeeding discussion we find that Chassaignac amputated the arm in a case of compound fracture with emphysema of the forearm, the patient recovering. He remarked also that, in these cases, putrefaction after death was astonishingly rapid. Velpeau and others cited cases of recovery without amputation. It appears that emphysema of the extremities may occur in connection with injuries of the same parts at several different periods; thus, several cases were related (one is recorded by Velpeau, in which, an hour after a compound fracture of the leg, it reached the knee; ib., p. 434) which were characterised by its occurrence immediately, in an hour, in two hours or so, after the injury, and by ultimate recovery without further complication; in such it is probably caused by air, derived directly from the external atmosphere, being forced into the cellular tissue. A second class comprises those cases in which it appears to be one of the symptoms of septicæmia, where the gas is, perhaps, exhaled by the blood; it is quite possible that in some cases the injury induces an immediate change in the composition of that fluid. A third form is that which accompanies inflammatory gangrene, as in cases recorded by M. Robert (ibid., p. 255) and Dr. Wilmot ('Dub. Quart. Journ.,' xxxiii, p. 313); here the gas is probably derived from the structures undergoing decomposition. Finally, it may occur without any external wound; this is shown by a case related by M. Morel-Lavallée ('Gaz. d. Hôp.,' 1861, p. 243), in which there was emphysema of both thighs lasting for ten days; thirteen days before its appearance the patella had been fractured, but there had been no external wound whatever. In connection with this subject a note is published by M. Demarquay, in which he relates some experiments on the chemical composition of air which had been injected into the cellular tissue (ibid., p. 274).

TETANUS.

W. Griesinger records a case ('Arch. d. Heilk.,' 1862, p. 171) in which there was severe fever, the temperature increasing during the last four days from 38·4° to 39·6° C.; he discovered in the urine an immense number of casts, of a very pale, waxy kind, without albumen, until the last day of life, when there was a trace of it. He remarks that such an acute disease, attended with high fever and acute kidney disease, cannot be considered a simple spasmodic affection, and quotes some post-mortem examinations which favour the view that it arises from infection. Another case is elaborately detailed by C. A. Wunderlich (ibid., p. 175); the first symptoms appeared on the 21st October; on the evening of the 26th the temperature was 37·6° C.; it increased with tolerable regularity till 10 p.m. on the 31st, when it was 40·75°; it was 42° at 6.40 a.m., November 1st, immediately after death, and continued to augment till 6.55 a.m., when it was 42·4°; from that time it slowly decreased. A few hours before death albumen showed itself for the first time in the urine, and a very few pale casts and blood-corpuscles. Professor Wagner found, by a microscopical examination of the spinal cord, the changes in its connective tissue which have been described by Rokitansky.

A case treated by large quantities of alcohol recovered (Dr. Hutchinson, in 'Dub. Med. Press,' and 'Brit. Med. Journ.,' 1862, i, 410). Other cases of recovery are reported by Dr. F. J. Brown ('Brit. Med. Journ.,' 1862, i, 435); by Mr. F. A. Bulley, who, amongst other treatment, had recourse to the method of A. Paré; a thick pad of coarse house flannel, several times folded, and wrung out of very hot water, was laid over the pit of the stomach; the body was then enveloped in six or seven blankets; after a short time copious diaphoresis was induced, in which he was allowed to remain for four or five hours, when the blankets were carefully and gradually removed. In a case of amputation under M. Chenevier ('Gaz. d. Hôp.,' 1861, p. 473) the tetanus was apparently cured by chloroform; it recurred, however, twenty-five days later, after a serious attack of secondary hæmorrhage, and death finally ensued. A case was treated successfully by Mr. Coulson with chloroform and aconite ('Lan.,' 1862, ii, 255). Mr. Playfair has found that ice applied to the spine, at intervals of four to five hours, has a remarkable effect in diminishing the intensity of the spasms; he reports two cases of recovery ('Med. Times and Gaz.,' 1862, i, 132). M. Broca used subcutaneous injections of curare in a case unsuccessfully ('Gaz. d. Hôp.,' 1862, p. 195). Dr. Gherini treated a case successfully by subcutaneous injections of curare (gr. 2 dissolved in a drachm of water); he remarks that the symptoms of its action on the organism appear with great rapidity—two, three, or, at the latest, four minutes after the injection—and that it does not continue to act for more than half an hour. He recommends the injections to be repeated every or every second hour. The dose of the curare in each injection may vary from gr. $\frac{1}{8}$ to gr. j, and should depend on the age, sex, and constitution ('Gaz. Med. Ital.,' and 'Med. Chir. Rundsch.,' 1862, ii, 27). Velpeau ('Gaz. d. Hôp.,' 1861, p. 170) treated a case with chloroform, opium, and curare; the latter was injected subcutaneously in the dose of gr. ·01 (= gr. ·15 Eng.) every two hours, but without effect; gr. ·06 (= gr. ·93 Eng.) was the total amount injected; he states that curare has been tried twelve times in France, and that there has been only one success, in a somewhat doubtful case. A fatal case of trismus ('Gaz. d. Hôp.,' 1862, p. 334) was treated with belladonna by M. Demarquay, who states that he has successfully treated several cases with that medicine in large doses; he recommends also subcutaneous injections of atropin. sulph. According to him, Sagre, of New York ('New York Journal of Med.,' March, 1858, p. 252), was the first to use curare in this disease. Professor Langenbeck treated a case unsuccessfully with injections of curare; he has appended three cases, which are in opposition to the idea of blood poisoning, and which appear to show that tetanus is a local nervous affection. In the first case Langenbeck removed by an incision a fragment of a needle; the symptoms immediately lessened, and next day the patient was well. In the second, a case of castration, the spermatic cord had been ligatured *en masse*, the removal of the ligature at once stopped all the symptoms;

and in the third case the reduction of a fracture, which was attended with great displacement, had the desired effect ('Med. Cent. Zeit.,' 1862, No. 34). Rev. S. Haughton was induced to use nicotine in this disease, from the fact that nicotine and strychnia appear to counteract one another; he relates ('Dub. Quart. Jour.,' xxxiv, p. 172) two cases of traumatic and one of idiopathic tetanus thus treated. In the first case the patient was nearly moribund when the medicine was given; it had, however, the effect of causing—1, immediate relaxation of the spasm of the muscles of expression, of respiration, and of deglutition; 2, cessation of delirium, and feeling of relief from agonising pain; 3, lowering of the pulse from 130 to 88 per minute. This case received three doses at intervals of two hours, each dose consisting of one drop of nicotine (gr. 0·6). The second was the case of idiopathic tetanus; it recovered; the dose was from a half to two thirds of a drop, and it was repeated several times in the day; he took in eleven days 44 drops, or gr. 26·4; the effects noticed in this case were—1, immediate relaxation of the muscles of the abdomen, back, and diaphragm; 2, cessation of delirium; 3, a slight tendency to increased circulation, to the extent of ten beats per minute; 4, profuse sweating, which exhaled an intolerable odour of snuff, not of tobacco; 5, a tendency to deep sleep; it failed to control quickly the adductor muscles supplied by the obturator nerve; even when the hamstring muscles gave way, the adductors refused. The third case recovered; the nicotine was given, in doses of 1, 2, and 2½ drops, in sherry and water, according to the urgency of the tetanic spasms. After the administration of the dose, in three minutes the spasm was gone and the muscles relaxed, and profuse sweating, accompanied by a smell of snuff, set in. During the four days of treatment with this medicine the patient received, by the mouth and rectum, altogether 54 drops = 32½ grains; and the physiological effects appeared to be the same whichever way the alkaloid was exhibited. Mr. Haughton remarks that nicotine should be employed as such, and not in infusion of tobacco leaves, in which its properties are masked by the action of two or more vegetable oils, the operation of which on the nervous system is unknown.

HYDROPHOBIA.

In a case published ('Brit. Med. Journ.,' 1862, i, 142) by Dr. Cunningham, there was the peculiar bark, resembling that of a dog, the existence of which has been denied by some writers; the intellect was clear till the patient expired. Another case, under Dr. Clark ('Amer. Med. Times,' 1862, i, 319), was characterised by the early occurrence and little intensity of the symptoms, and by the rapidity with which death took place. M. Bergeron records ('Arch. Gén.,' 1862, i, 137, 317, 551) a most interesting case, occurring in a lad aged twelve and a half years, after the unusually long incubation of five and a half months, which was treated unsuccessfully with subcutaneous injections of atropine; he recommends further trials with subcutaneous injections, not only of atropine, but also of morphia, digitalis, or curare. M. Boudin rejects spontaneous rabies and also the influence of unsatisfied sexual desires ('Arch. Gén.,' 1861, ii, 747). M. Renault (ib., 1862, i, 755) states that from 1845 to

1853 inclusive there were 278 cases in Berlin, according to the registers of the veterinary school of that city; that in 1854 it was decided that all dogs should be muzzled, a measure which has since been strictly carried out, with the effect that there have been, not only at the veterinary school, but in all the city, in 1854, four cases; in 1855, one case; in 1856, one case; and in 1857, 1858, 1859, 1860, 1861, none; a result which requires no commentary. M. Trousseau gave a clinical lecture on a case in which the symptom, long since noted by Cælius Aurelianus, satyriasis, was most marked; he also mentioned four cases he had previously seen, and some others simulating this disease, but really arising from mental impressions ('Gaz. d. Hôp.,' 1861, p. 45). Another case, in which the subcutaneous injection of atropine failed, occurred under M. Guillot (ib., p. 454).

GLANDERS.

Zimmermann has published a paper, of nearly 200 pages, on four cases of this disease; two of which, he thinks, were caused by contagion through a volatile poison ('Arch. f. Path. Anat.,' xxiii, 209).

MALIGNANT PUSTULE.

Dr. H. Wald has carefully examined the causes of this affection in animals (Schmidt's 'Jahrb.,' cxvi, 136), and has found that neither climate, height above the sea, nor geological formation, has any direct connection with it. He found, however, that it never prevailed endemically among animals, except where the land was very wet (marshy) and more or less abounding in organic detritus. He failed in finding an explanation for its non-occurrence in some marsh districts.

Dr. W. Budd ('Med. Times and Gaz.,' 1862, ii, 163) has collected nine cases of this disease, which, according to him, is not so uncommon in England as has been supposed. All the cases terminated fatally in from four to eight days. A case and some further remarks are to be found in the same journal (p. 195); another case, treated by amputation near the shoulder, is reported by F. Jordan (ib., p. 323); and one commencing on the penis, by Mr. Harper ('Lancet,' 1862, ii, 228).

WOUNDS BY SERPENTS.

M. Guyon reports a case of bite by the horned viper (*Cerastes Ægyptiacus*), in which there was hemiplegia of the opposite side to that wounded; recovery was perfect, except as to the paralysis. Dr. Hussa has observed twenty-eight cases of viper-bites, three of which ended in death ('Allg. Wien. Med. Zeit.,' 1861, No. 32). A work on the serpents of la Vendée, by A. Viaud-Grandmarais is reviewed in the 'Gaz. Hebd.' (1861, p. 772).

VENEREAL DISEASES.

'Syphilidology or the most Recent Discoveries,' &c., edited by F. Behrend, 2nd series, vol. iii (Erlangen), a journal principally filled with translations or extracts from other sources, yet of use as a collection of nearly all that has been recently published of importance on the subject.

F. J. Bumstead, 'The Pathology and Treatment of Venereal Diseases, including the results of recent investigations upon this subject.' Philadelphia, Blanchard and Lee.

GONORRHŒA.

P. Diday considered for a long time that there was really only one species of this disease, the symptoms being modified in different cases by accidental circumstances, such as age or temperament; ultimately he found himself obliged to admit a second species of discharge, which differed from the genuine gonorrhœa by its cause, its symptoms, and its nature. This affection is called by him *uréthrorrhée;* it most resembles gleet, except that it has no previous stage of acute inflammation. It seems to occur rather frequently, judging from the fact that Diday met with twelve cases in fourteen months. The symptoms are characterised by an extreme mildness from the commencement to the end of the case, and by the entire absence of any acute inflammatory stage. The case may, indeed, be said to be chronic from the beginning. The discharge is not purulent; it is glairy, clear, and transparent, with a shade of white; it is very scanty in quantity, scarcely amounting to a drop in eight or ten hours. Its duration is long; it lasts for at least one and often for many months. M. Diday considers that it is induced by coitus during the catamenial period; he does not deny the possibility of its being excited by other discharges, though he is evidently inclined to consider that it is not. The following case appears scarcely to leave room for a doubt as to the influence of the cause first mentioned:—Case II. "A merchant, forty-two years of age, caught, in January, 1860, this disease, from having connexion with his mistress during the catamenial period. I explained to him the reason; he listened, but only half believed me; suspecting some source more equivocal and more affecting the honour of his quasi-spouse, he promised himself that he would repeat the experiment. His discharge continued many months, during which time he repeatedly had intercourse with his mistress without any unpleasant result; finally, however, he recovered, and chose a day, towards the 5th of February, 1861, for having connexion when she had her catamenia. Five or six days later he came to me with a discharge in every respect resembling the one of the year before."

The period of incubation is very short, twenty-four to thirty-six hours. The affection obstinately resists all treatment; it cannot be brought to a rapid conclusion by injections of nitrate of silver, nor yet by copaiba or cubebs; it gets well, but never suddenly. Diday found it best to order for fifteen to thirty days mild antiphlogistic treatment, such as gentle laxatives, baths, abstinence, and continence; and then to employ weak injections of nitrate of silver (about gr. j to ℥iv of water). In a couple of cases in which he and his physic had been of little service, free beer-drinking stopped the discharge ('Arch. Gén.,' 1861, ii, 385).

Professor Sigmund has published a series of lectures on this affection ('Wien. Med. Halle,' 1862, pp. 63, 79, &c.). He rejects the opinion that gonorrhœa may be caused by pus from a syphilitic ulcer; he asserts that the ordinary leucorrhœal discharges, occurring in married women, in the scrophulous, &c., will only produce a slight catarrhal discharge in the male, and no veritable gonorrhœa; the slight discharges, which are so common in prostitutes, are often, according to him, really the remains of some former gonorrhœal attack, and are infectious. He states that warts behind the corona glandis are a certain sign of a previous gonorrhœa. It is true that only the glans (balanitis) may have been affected, there may have been no urethral affection; but that there has been gonorrhœa, is certain. He gives an important caution as to a class of cases which are often considered as balanitis; a superficial excoriation on the glans or prepuce, accompanied by a certain amount of discharge, often forms the commencement of a hard chancre; the discharge and excoriation often entirely disappear before the occurrence of induration, for the latter does not appear till from the third to the sixth week, and thus the nature of the case may be, and often is, overlooked both by patient and surgeon until the development of secondary symptoms no longer allows a doubt. Excoriations of small extent always merit the greatest attention; an examination of the female may to some degree assist the surgeon; his rule, however, in practice, should be—never to give a decided opinion in such cases before the end of the sixth week from the time of sexual intercourse, and then only after careful observation and repeated examination. The lapse of a certain length of time is indispensable for a positive diagnosis.

M. Beyran says that the mixture of tar with copaiba completely masks its disagreeable taste and odour; he prescribes copaiba and tar, of each equal parts; magnesia, sufficient to form a mass capable of being divided into pills ('Brit. Med. Journ.,' 1862, i, 118).

Dr. Spengler treated a case of neuralgia after gonorrhœa by the local application of Arg. Nit. with success; violent burning in the situation of the fossa navicularis, and a feeling of icy coldness in the glans, were the neuralgic symptoms ('Not. a. d. Geb. d. Nat.,' and 'Med.-Chir. Runds.,' 1862, ii, 110).

Mr. Childs has employed the pernitrate of mercury with the happiest results. In some instances six injections have been sufficient to effect a cure, whilst in other cases the treatment has rarely exceeded ten days. With the exception of a saline purgative at first, no other medicine was administered. The strength of the injection is half a minim of the solution of pernitrate of mercury to an ounce of water; to be used three times a day. The solution contains twelve grains of the solid hydrargyri pernitras in the fluid drachm ('Lancet,' 1861, ii, 350, 434).

Mr. Baizeau describes a hæmorrhagic inflammation of the neck of the bladder, which occasionally complicates gonorrhœa. Its cause is generally the use of irritant injections or alcoholic and venereal excesses; exactly the same affection occurs from injury or irritation of the neck of the bladder by the passage of calculi or of instruments. It principally occurs towards the latter part of the gonorrhœal attack, sometimes when the discharge has almost entirely disappeared; in general it commences suddenly, and is attended with great vesical irritability. On micturition the urine is at first clear, then becomes of a reddish hue, and, finally, a few drops of pure blood escape; then there follows a spasmodic contraction of the neck of the bladder, and the patient suffers from tenesmus for ten or fifteen minutes; at length the pain becomes less, and is lost in the sensation of heaviness and uneasiness about the prostate, which continues without intermission. This affection is very troublesome, but not dangerous; the constant irritability of the bladder, the pain in micturition, may cause considerable mental depression. Under treatment its duration is generally short, and the cure is complete in eight to fifteen days. Sometimes the cystitis becomes chronic or the irritability of the bladder may persist, though unattended by other symptoms. M. Baizeau has found copaiba to have a very beneficial effect in these cases; he commences with a drachm, which he afterwards increases, when the disease is obstinate and the remedy well borne, to a drachm and a half or even two and a half drachms; the former quantity, or one but little larger, is generally sufficient ('Gaz. d. Hôp.,' 1861, p. 457; see also p. 567).

Mr. Barwell relies chiefly on quinine in the treatment of gonorrhœal rheumatism; it must not, however, be given in the ordinary grain or two-grain dose, but in large quantities, five or even ten grains at a time ('Treatise on Diseases of the Joints,' p. 88).

SYPHILIS.

'Researches on Syphilis, supported by Statistical Tables drawn from the archives of the Hospitals of Christiania,' by W. Boeck. Published at the expense of the Government. 4to, pp. 509.

The basis of this work is formed by the registers of the hospital of Christiania for the long period of thirty years, commencing with the year 1826; the greater part of the volume is occupied by elaborate tables, the author noting in each case the more important points which it is his object to elucidate. Boeck believes in the unity of the syphilitic virus; he says, "the soft is produced by the same virus as the indurated chancre; the two forms arise from the intensity of this virus being different. Soft chancres are the product of the most energetic virus, which, by its intensity, developes in its circumference an inflammation which puts an obstacle in the way of absorption; indurated chancres are the product of a virus of less intensity, which does not develop an inflammation sufficiently strong to hinder absorption. With matter of an intensity different from these, we obtain intermediate forms of chancre, in which, with all our experience, we are uncertain whether or not the primary affection will be succeeded by constitutional syphilis." He asserts that he has often inoculated the indurated form, and he explains the striking difference in his results from those of other observers in this manner:—"In following closely the progress of a certain number of chancres from their earliest stage, it will be noticed that at their outset they are quite identical and present ulcers with an abundant suppuration. But by slow degrees some of them, generally the smaller proportion, begin to become indurated, and as the induration proceeds, the suppuration will diminish, and the secretion become more and more serous. Inoculation practised in this stage will in many, and, perhaps, in most cases, give a negative result, and the more progress the induration makes, the more rarely shall we succeed in producing pustules by the lancet, until at last inoculation will be quite fruitless. If now we cover the sore with charpie, and do not renew it, there will be at the end of twenty-four hours an abundant secretion of matter, thicker and purulent, the inoculation of which will give positive results in most cases. It is probable that the numerous fruitless inoculations reported by authors were made in the later stage, and without the necessary precautions." In phagedænic chancre Boeck employs the actual cautery. The principal results from his statistics are:—1083 primary cases were treated by mercury, the mean duration of the treatment was sixty days;* 626 primary cases were treated without mercury, the mean duration of the treatment was forty days; and from 1852 to 1861 inclusive, 254 were treated by external remedies, the mean time of treatment was thirty-seven days; 24 per cent. of those treated by mercury for primary syphilis have had constitutional syphilis; 14 per cent. of those treated from 1826 to 1852 without mercury for primary syphilis, have had constitutional syphilis; 11 per cent. of those treated from 1852 to 1861 inclusive, without mercury for primary syphilis, have had constitutional syphilis.

3200 persons were treated for constitutional syphilis by mercury, the mean time of treatment was 125 days; but 77 persons who died during the first treatment ought not to be counted; and thus the true result is that 3123 persons were treated, and that the mean duration of the treatment was 126 days. 1036 of the above 3123 have had returns of the disease, that is, 33 per cent., but a good number having had several returns, the total number of returns is 1615. 108 persons died, 77 during the first treatment.

316 persons were treated without mercury (by the old methods), the mean time of treatment was 101 days; but 33 persons, who died during the first treatment, ought not to be counted, and, consequently, the true result is that 283 persons were treated, and that the mean duration of the treatment was 106 days. 82 of the 283 had returns of the disease, *i.e.* 28 per cent.; many of them had several returns, the total number of returns being 119.

265 persons were treated for the first constitutional affection by syphilisation, the mean time of treatment was 134 days. 22 of the 265 (19 of whom were infants with hereditary syphilis), dying during the first treatment, ought not to be counted, and the true result, consequently, is that 243 individuals were treated, and that the mean duration of the treatment was 143 days. The treatment by syphilisation was begun in 1852. 27 persons of the 243 had returns of the disease, *i.e.* 11 per cent.

77 persons were treated by derivation, the mean time of the treatment was 184 days. The treatment by derivation was commenced in 1856. 19 persons have had returns, *i.e.* 24 per cent.

22 persons have been treated by the sudorific method conjointly with strict regimen and decoction of sarsaparilla; the mean duration of the treatment was 107 days. The sudorific treatment was commenced in 1861. 7 of these have had returns, *i.e.* 31 per cent.

237 primary affections, acquired after a constitutional syphilis previously treated by mercury or by one of the old methods, have demanded for their

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* Fractions are omitted throughout.

treatment a mean time of forty-one days. 5 primary affections, acquired after a constitutional syphilis treated by syphilisation, have demanded for treatment a mean time of twelve days. 10 primary affections, acquired after a constitutional syphilis previously treated by derivation, have demanded for treatment a mean time of forty-eight days ('Med. Times and Gaz.,' 1862, i, 676).

D. A. Zambaco, 'On Syphilitic Nervous Affections,' Paris, J. B. Baillière, pp. 20 and 596.—To some extent a collection of original observations, arranged and connected by a discussion of the more important points connected with them. According to the author, any and every functional disturbance of the nervous system may be caused by syphilis; thus it may induce chorea, hysteria, epilepsy, insanity, paralysis of sensation or of motion, neuralgia, affections of the organs of sense. In some exceptional cases, these functional diseases induced by syphilis are unaccompanied by any discernible organic lesion; in the great mass, it has been fully proved by dissection, that they are occasioned by distinct pathological changes, such as the effusion of plastic products in the nervous tissue, inflammation of the brain or its membranes excited by an exostosis.

J. Rollet, 'Clinical and Experimental Researches on Syphilis, simple Chancre, and Gonorrhœa,' Paris, Baillière (with an atlas of plates).—A collection of essays on the plurality of venereal diseases, syphilitic contagion, chancre of the mouth and nipple, gonorrhœal rheumatism, &c.; they have for the most part been published previously, and become generally diffused.

F. E. Friedrich, 'On the Doctrines held as to Chancre,' Erlangen, F. Enke, pp. 4 and 93.—A collection of the doctrines held by different authorities, an exposition of their contradictions, and an attempt at a satisfactory solution of the difficulties. He considers that too much importance has been assigned to the hardness or softness of the sore, though he himself believes in a dualism; on the other hand, he thinks the inoculability of the sore on the patient himself the most certain guide, for a sore, that can be inoculated, according to him, never induces secondary symptoms.

A. Viennois, 'An Examination of the Opinions recently expounded by M. Ricord at the Hôtel-Dieu,' Paris, F. Savy, 8vo, pp. 62 (a reprint from the 'Gaz. d. Hôp.,' 1862, p. 138, &c.).

E. Langlebert, 'On the Chancre produced by the Contagion of Secondary Symptoms, &c.,' second edition, Paris, Delahaye, pp. 21 and 130.

M. Robert, 'New Treatise on Venereal Diseases,' Paris, Baillière.

M. Robert has also published a pamphlet, in which he endeavours to show, that the hard chancre is sometimes inoculable on the patient himself. The cases given by him are quoted in the 'Gaz. Hebd.' (1862, p. 274), and their inconclusiveness shown by P. Picard. The latter gentleman states (ibid., p. 246), that he has repeated with success the experiment proving the existence of mixed chancres. A patient has a well-marked hard sore, and a number of the lymphatic glands are hard and indolent; the discharge from the sore is not inoculable on the patient himself: now to this sore, some pus from an equally certain soft chancre is applied; in three days the form of the sore becomes changed, the glands are no longer hard and indolent, the nearest gland has already become larger and painful; tne pus of this (mixed) sore is now inoculable on the patient himself, and will continue to be so for three weeks or more.

Mr. Henry Lee ('Brit. Med. Journ.,' 1862, i, 353) records a good specimen of the mixed sore. A patient had a superficial suppurating sore, which secreted well-formed pus, and was inoculable. He was treated without specific remedies. When the sore healed, it became surrounded by a well-defined induration, which terminated abruptly. This induration increased instead of diminishing, as the wound cicatrized. Secondary symptoms followed.

M. P. Diday, 'The Natural History of Syphilis, and its Treatment,' ('Gaz. Hebd.,' 1861, p. 277, and 'Edin. Med. Journ.,' vii, 277).—"Since March, 1855, up to the present time, I have carried out the non-mercurial treatment in the cases of nearly two hundred persons affected with constitutional syphilis. I have full notes of a hundred and thirty of these cases. Among these individuals I have seen the disease, thus left to take its natural course, be sometimes *mild;* sometimes, and more rarely, *severe.* Now, this difference among the cases has its *cause;* it manifests itself by *special symptoms;* it suggests *therapeutical deductions* in relation to its essence. Let us examine successively these three points.

"*Causes.*—Acquired syphilis always commences by a lesion more or less ulcerative in character. This lesion—the primary infecting ulcer—appears under two distinct forms:—1st, the indurated, or Hunterian chancre; 2nd, the chancriform erosion.

"Of the second lesion, the name only is new; for the affection, which it designates, has existed at every period, and several authors have already described it. It is, in fact, the parchment-like chancre of Ricord, the chancrous erosion of Bassereau, the superficial erosion of Langlebert, the *venerola vulgaris* of Evans, the chancrous excoriation of Carmichael, the condylomatous affection of Rinecker. The chancriform erosion has a double origin; it may be produced either by contact with a similar sore or by contact with a secondary lesion. It is by this affection that syphilis is most usually propagated; for, more indolent than the chancre, it is better adapted than it for being submitted to that species of contact by which the morbid transmission takes place; and, more contagious than the secondary lesion, it fails less frequently than it to produce infection in those who are exposed to contact with it.

"Starting from these fundamental notions, we can now determine in what the degree of intensity of a syphilis depends; in other words, why in one case the disease shall be severe, in another mild. This depends either upon the source from which the virus has been derived (conditions proper to the infecting subject), or upon the organism on which it exerts its effects (conditions proper to the subject infected).

"In the first place, as to the *source:* the fluid of the infecting subject is more or less *active,* according as it is derived from an hereditary syphilis, from an indurated chancre, from a chancriform erosion, or from a secondary lesion. And by the expression *more or less active* I mean two things: first, that the fluid in question shall have more or less power of transmitting the disease; and, second, that the disease, when transmitted, shall have more or less gravity. Accordingly, in virtue of its source alone, syphilis may have different degrees of intensity, and this without its being in the least degree necessary, in order to explain these different degrees, to admit the existence of several viruses. The unequal strength of cow-pox, and of the vaccine fluid, is an example of the attenuation which the same virus may undergo by migration through the organism. Besides account must be taken of the more or less advanced period of evolution of the lesion at the time when the patient was brought into contact with it. If the primary lesions are regarded as more transmissible than the secondary—if among the secondary those which appear soonest, condylomata (*plaques muqueuses*), are considered the most communicable—if the secondary lesions, which are still contagious, are gradually replaced by tertiary affections, which all allow are no longer so—it appears probable that the older a lesion is, the less active is the fluid derived from it, and conversely.

"In the second place, and as to the subject infected, it is incontestable that his constitution, his previous and actual health, his hygienic condition, &c., exercise an influence upon the intensity and duration of the syphilis which he has contracted. But this difference of the organism—which, moreover, it is very difficult to appreciate—appears to have less power than the *source* in modifying the malady, in determining the degree of gravity which it shall assume.

"An accurate observer, who fairly appreciates the influence of the organism and that of the source, will find that the *severe* syphilis is generally transmitted by the fluid derived either from an hereditary lesion, or from an indurated chancre; while the *mild* syphilis is generally transmitted by the fluid from a secondary lesion or a chancriform erosion.

"The more and more frequent part, which contagion by secondary lesions has taken in the propagation of syphilis, is one of the causes by which we may explain the progressive attenuation of the disease, from the fifteenth century down to the present time. It will easily be comprehended from what precedes where we are to look for the causes of its reinforcement.

"An individual who is, or who has been, syphilitic, is up to a certain point refractory to the contagion of a fresh syphilitic virus. If he is so completely, if he is so to a greater or less degree, if he is so to the ulcerative action of the virus, or only to its infecting properties, must depend upon certain causes; namely, first, the degree of strength possessed by the virus to which he has already paid tribute; second, the degree of strength of the virus to which he has latterly been exposed; third, the period, more or less distant, of his first attack of syphilis. These facts contain the whole theory, still to be perfected (and which Fernel has so well summed up in two phrases), of *unicity*, of *double chancres*, and of *double poxes*.

"*Symptoms.*—I have seen syphilis, though treated methodically by specifics, last for a very long time; give rise, after affections of the skin, to iritis, disease of the testicles, and then to the so-called tertiary symptoms; relapse under this form almost indefinitely; or, even though the disease was apparently cured, a tendency to the generation of infected children remain. I call this state of matters *severe syphilis*.

"On the contrary, and more frequently, I have seen syphilis, though treated without specifics, limit itself to superficial lesions, to two or three crops of cutaneous eruption (the severity of which gradually diminished); then the health be completely re-established, as proved by the procreation of healthy children. I call this state *mild syphilis.*

"But the object of my present inquiry is not to determine whether in a particular instance, when the whole train of symptoms has been gone through, the case was one of severe or mild syphilis. The important and the difficult point is to draw from the first manifestations of the disease indications which permit the practitioner to discover at an early period whether the disease will assume the severe or the mild form. The therapeutical modification which I propose is, in fact, based entirely upon this determination, and upon the possibility of establishing it at an early period.

"Now, the following are the indications, arranged in chronological order, of the mild form:

"1st. The infecting subject, if examined sufficiently early, had a secondary lesion or a chancriform erosion.

"2nd. In the infected subject the primary lesion was a chancriform erosion.

"3rd. The period of incubation between the primary lesion and the secondary symptoms was comparatively prolonged.

"4th. The first affection of the skin was only exanthematic or papular.

"5th. If there have been several crops of eruptions, they have been few in number, and separated from one another by long intervals; their gravity has gradually diminished.

"On the contrary, with an indurated chancre on the part of the infecting and the infected, with a short period of incubation, with the first eruption of a pustular or scaly character, with numerous crops of eruption, separated by short intervals, and gradually becoming more severe, we can foresee a severe attack of the disease.

"The character of the constitution of the individual infected should also be taken into account in fixing the prognosis as to the form which the disease will assume. In this respect the degree of chlorosis which accompanies the first stage, and the amount of glandular engorgement which accompanies fresh manifestations, deserve to be taken into serious consideration.

"*Treatment.*—The treatment of syphilis without mercury has been in vigour for a long time, for it has counted supporters since the first appearance of the disease; but errors and misapprehensions without number have, up to the present time, compromised its success. In the first place, and at every period, practitioners have always deceived themselves with regard to the adjuvants to be employed in such cases. Whilst tonics and reconstituents were necessary, we find all the authorities—to aid, as they say, the spontaneous cure of syphilis—prescribe loss of blood and a debilitating regimen. Besides, I refuse to place any confidence in the clinical observations where cases of soft sore, gonorrhœa, vegetations, suppurated bubo, are made to figure as examples of the cure of syphilis. Likewise I decline to accept, as real cases of spontaneous cure, such cases as were merely stated to be cured at the time when they left the hospital. In these respects, the inquiry begun in 1816 requires to be recommenced. At that time, moreover, too much confidence was entertained in the curative power of mercury to allow practitioners to look impartially on the method which aspired to replace it. Thus great injustice was done towards it in demanding of it what mercury could not give—that is, in declaring it, inferior to mercury, if it ever allowed relapses to take place. Now mercury, as is well known, since its effects have been better studied, has been obliged to abandon the pretension of radically curing syphilis so as to render all relapse impossible. Its warmest advocates do not, in the present day, do more than claim for it the power of delaying the appearance of the first syphilitic manifestations and of hastening the disappearance of certain of them.

"In fact, I possess and shall produce fifty-seven observations, from which it clearly results that mercury given from the very commencement of the primary lesion, by the best specialists, and continued in full doses during as long or a longer period than the surgeon had desired, has left the syphilis to conduct itself as if mercury had never been given—that is, sometimes to terminate favorably after two or three attacks of symptoms of no great intensity, and gradually decreasing in severity—sometimes to relapse at short intervals, become more and more severe, and at length become tertiary.

"On the other hand, mercury has its inconveniences and its dangers. While absolving it from the production of imaginary evils—while declaring it innocent of the production of certain syphilitic lesions which Germany still persists in laying to its charge, I impute to it positively, and on sufficient clinical evidence, the following disadvantages:—1st, rendering the primary ulcer phagedænic; 2nd, occasioning stomatitis and necrosis of the alveolar borders; 3rd, an acute affection of the gastro-intestinal mucous membrane and dyspepsia; 4th, trembling of the extremities; 5th, apoplexy (this is rare); 6th, insanity. All these accidents I have seen supervene as the results of treatment ordered and superintended by most competent and most attentive practitioners. As, moreover, I have seen syphilis treated without mercury in general recover, as I have collected numerous observations where the persistence of this cure has been determined at the end of four, five, six, seven, and fourteen years (counting from the disappearance of the last syphilitic symptoms), I believe that I act in the interest of my patients in not prescribing mercury indiscriminately in every case.

"Consequently, if the primary lesion is an indurated, *woody*, chancre, I give mercury; if it is a chancriform erosion, I temporise and observe, guiding my treatment by the prognostic signs enumerated above, signs which, as they gradually unfold before my eyes, give me at each phase a new indication of the probable gravity of the syphilis with which I have to do. As long as their answer is favorable—as long as, in other words, I think I have to do with the mild form of the disease—I abstain from mercury, instead of pouring it in, as so many practitioners do at the present day, on the appearance of slight relapses, which at the end of a few months would have terminated without treatment in the definite disappearance of the disease. I employ, however, other remedies, such as iodine, iron, quinine; and, in particular, I avail myself of the resources of a tonic and supporting regimen, the use of which in such cases seems to me to take the first place amongst our therapeutic means. If it should happen that there supervenes one of the accidents which experience has shown to be particularly indicative of the use of mercury (such as induration, iritis, aphonia, &c.), I adopt an empirical treatment, giving the so-called specific alone, or associated with other agents, until the complete cure of the accident in question. I employ, in the same way, iodides to combat the chloro-anæmic condition of the first period, and to relieve the pain of tertiary ulcerations. In short, and in spite of its proved insufficiency in too many circumstances, I do not hesitate to prescribe mercury, or to continue its employment as long as do those of my colleagues who are the most convinced of its efficacy and necessity, in all cases where the course of the disease has shown me that I have to treat the severe form of syphilis. But even in these cases we must not trust exclusively to this drug, so often unfaithful, but must employ, concurrently or separately, iodine, and the most active means for strengthening the constitution, afforded us by hygiene and hydrology; finally, we must avail ourselves of the therapeutic means derived from a study of other virulent diseases, means which, it is to be hoped, will enable us to remove from the treatment of syphilis the stigma which has for so long been attached to it."

Dr. Reder is of opinion, that chancre has no essential connection with syphilis, and that the reason, why it so often precedes the outbreak of constitutional symptoms, is simply because it forms the readiest entrance for the syphilitic poison ('Med. Jahrb., Zeits.,' &c., 1862, i, 57).

Danielsen, in many thousand inoculations of syphilitic matter in cases of spedalskhed and syphilis, had only one that became indurated. The patient was affected with spedalskhed, and had been inoculated already 393 times, 278 times with a positive result. The matter for one of the later inoculations was taken from a chancre, which afterwards became indurated; the point of inoculation soon cicatrized; forty-eight days later, however, the cicatrix again gave way, and a superficial ulcer with but little secretion was formed. After its cure the cicatrix was indurated, and three months later there occurred general syphilis. In no case, where the inoculation produced a soft sore, did constitutional symptoms appear ('Med. Jahrb., Zeits.,' &c., 1862, i, Anal. 106).

Professor Lindwurm has made some important observations ('Würzb. Med. Zeit.,' iii, 143): we can here only note that he has recorded five cases, in which constitutional syphilis was transmitted to healthy individuals by means of inoculation. The fourth and most important case is the following: —Marie E—, æt. 71, has suffered for many years from a large, deeply penetrating ulcer of the forehead, almost two inches in diameter, and placed directly above the nose. Both frontal sinuses have been laid open by destruction of their anterior wall; the fundus of this ulcer discharges but little pus, bleeds readily, is very red and closely covered with large granulations, between which a probe can be passed with ease down to the bone, and even at some parts into it. Microscopical examination shows abundant proliferation of the sebaceous follicles, so that the ulcer may be considered to be a destructive adenoid. The patient has never had syphilis. On the 27th May, 1861, blood derived from a case of constitutional syphilis was injected subcutaneously at two spots between the scapulæ. The blood was drawn, the moment before its use, by means of a cupping glass, from a *perfectly normal portion* of the back of a syphilitic person.

The syphilitic person, from whom the blood was derived, was twenty-two years old, and in the eighth month of pregnancy. She had on the posterior commissure a large, elevated, irregular ulcer, which was seated on a hardish base, and suppurated but little, but was, however, very painful; swelling of the inguinal and cervical glands, a maculated and papular eruption, ulcers in the fauces, falling-off of the hair, &c. On the 31st of May she gave birth to a little, weak, but apparently healthy child; five days later, however, pemphigus appeared on the palms of the hands and the soles of the feet, and was followed by dirty-red patches and tubercles on the nates and about the anus. This child, wasted to a skeleton, died in five weeks.

It was not till the fourth week after the injection, that any change appeared; at that time, a little red tubercle showed itself at the puncture on the right side, and it then gradually increased, especially in breadth, became excoriated on the surface, and covered with a thin, yellowish-brown crust. It reached the size of a sixpence, was surrounded by a red areola, was elevated towards the margin, but a little depressed in the centre, was seated on a hardish base, and on removal of the thin crust showed a red, somewhat spongy surface, with a little thin secretion; the latter soon dried again into a thin scab. Eight days later there appeared, two inches above this ulcer, between the vertebræ and the edge of the scapula and just under the skin, a swollen lymphatic gland of the size of a bean, and which could be distinctly seen or felt. At a later period the occipital, cervical, and cubital glands enlarged; on the skin there appeared a maculated, tubercular, and finally scaly affection. The syphilis was perfectly cured by iodide of potassium; the ulcer on the forehead remained without change.

The influence of different regions of the body on the development of the hard or soft sore was apparently proved by the generally admitted fact, that chancres on the head are always hard, those on the vulva almost always soft. The former of these statements has now been satisfactorily disproved: soft chancres inoculated on the head always produce soft sores. The non-occurrence of hard chancre on the female genitals is now, says Lindwurm, to be explained in a different manner. Condylomatous growths represent in the female the primary disease. When a healthy person is inoculated with pus from a hard chancre, a small papule is formed after a certain length of incubation, and it is the further course of this papule, that appears to be modified by position, the medicaments applied to it, and other accidental conditions. When it is placed on such parts as are constantly moist, wet, or irritated by secretions, this primary papule becomes much more luxuriant in its growth, and passes directly into a broad condyloma; such a change is the rule in women, but rare in men. The opinion, that in such cases the broad condyloma has been developed from an indurated chancre by a *transformatio in situ*, or that a broad condyloma must be invariably preceded by an indurated sore, is perfectly erroneous; as indeed is the opinion supported by Ricord, Langlebert, and Rollet, and now generally adopted by practitioners, that *constitutional syphilis must always commence with an ulcer*. Experimentation has taught us the opposite, for in many cases we found constitutional syphilis developed from solid, dry, desquamating papules or tubercles, unattended by any ulceration. Indurated chancre is rarely found in the female sex, according to the universal testimony of all observers: it is rarely found, not because it is overlooked owing to the more difficult examination of female patients, as many assert, or because it has healed without leaving a vestige, when the broad condyloma makes its appearance, but simply for the following reason:—the primary papule is at first formed by cells infiltrated in the cutis around the point of infection, and this papule passes directly into the broad condyloma by greater cell-proliferation in the rete Malphigii, by hypertrophy of the corpus papillare, and at a later period by the formation of connective tissue; it is unattended by either induration or ulceration.

Soft chancres in women may also become so transformed, as closely to resemble condylomata; Lindwurm confesses to having often made a wrong diagnosis in such cases: he says, "What I had considered as the commencement, as the stage of development of constitutional syphilis (ulcus elevatum, commencing broad condyloma), was only a simple chancre with luxuriant granulations. Not only chancres, but also other non-specific ulcers, when exposed to great irritation, as when placed behind the corona glandis in cases of balanitis or on the female genitals in cases of leucorrhœa, often present during the stage of healing a great tendency to the excessive formation of granulations. In such cases the fundus of the ulcer passes beyond the level of the surrounding skin; such an *ulcus elevatum* has the greatest resemblance to a broad condyloma in process of development. Ricord, Fournier, Rollet, have already referred to cases of these lesions, which led me in former days to diagnose constitutional syphilis, when in reality there was none. I became convinced of the local nature of these processes by finding, that the weak solution of chloride of zinc without any constitutional treatment rapidly cured such proliferations, and that no constitutional symptoms occurred at a later period."

He gives two cases in which hard sores were inoculated with pus from a soft chancre, and one in which a soft sore was inoculated with pus from a hard chancre; the latter was followed by constitutional syphilis.

M. Diday has published an elaborate paper ('Arch. Gén.,' 1862, ii, 26, 176) on second attacks of syphilis. He found, as the effect of the second attack, in sixteen cases a chancre only (indurated sore); in nine cases, a mild, and in two, a severe syphilis. As to the time which elapsed between the two attacks, he found, when he excluded the cases treated by mercury and those not watched for a sufficient period, an average of twenty-two months between the first attack and the second where a chancre only appeared (drawn from seven cases); between the former and the second chancre with mild syphilis, an average of forty-six months (drawn from nine cases); between the former and the second chancre with severe syphilis an average of nineteen and a half years (from two cases). He summarises his paper in the following conclusions:—1. Generally speaking, the syphilitic virus, like every other specific virus, does not exercise twice successively the same action on the same person. 2. Introduced into a syphilitic subject (under such physical conditions as permit absorption), the virus produces no effect; but when introduced into a person, who has had, but no longer has, syphilis, it produces a modified syphilis.

3. The milder the first attack of syphilis, the more distant its date from the time of the second introduction of the virus, and the more energetic the virus applied on the second occasion (that is, drawn from a congenital or primary, rather than from a secondary lesion), the more severe will be the second attack of syphilis; and *vice versâ*. 4. Experience, in agreement with reason, shows, that the only subjects, in whom the second introduction of syphilitic virus has produced any pathological effect, are those who have been cured of their first attack of syphilis, or who, at least, only present such symptoms as are not transmissible by generation or contact (tertiary symptoms). 5. As to the phenomena produced by the second introduction of the virus, effected under these conditions, observation shows, that they are variable, and that they consist.—(*a*) In more than one half of the cases, in an ulcer having all the characters of an indurated chancre, *except that it is not accompanied by an enlargement and induration of the lymphatic glands.* This ulcer is not followed by secondary symptoms; and thus the absence of glandular affection enables the physician to recognise beforehand the indurated chancres, which will not be followed by constitutional symptoms.* (*b*) In more than one fourth of the cases, in an indurated chancre followed by constitutional symptoms less severe than those of the first attack of syphilis. (*c*) In less than one eighth of the cases, in an indurated chancre followed by secondary symptoms more intense than those of the first attack of syphilis. (*d*) In less than one eighth of the cases (in which the first syphilis had only been characterised by an indurated chancre without secondary symptoms), in an indurated chancre followed by only slight constitutional symptoms. 6. As regards the period of time between the dates of the two infections, it was found that the shorter the interval, the feebler were the effects resulting from the second infection. The interval was shortest in those secondary cases in which there was only a chancre, and longest in those in which the syphilis was more severe in the second than in the first attack. 7. The impossibility of inoculating syphilis in a man, who *is suffering* from syphilis, is a very certain fact. This result, proved by experiment, is not, however, opposed to the possibility of the reinfection of a man who *has had* syphilis. On the contrary, it demonstrates the possibility, by affording the strongest presumption, that can be furnished in pathology, by a difference in the effects to be accounted for by a difference in the causes. 8. Twenty examples of reinfection, observed by M. Diday in his own practice in six years, give an idea of the frequency of such cases. Although these facts appear new, they would long since have been well known, had not practitioners allowed themselves to be blinded by doctrines, which, though true in most, are not absolutely so in all cases. 9. The reinfection of a man, who has had syphilis, shows that he has been cured of it; and from this theorem three practical corollaries result:—(*a*) It proves that syphilis may be radically cured, a fact denied by many authors. (*b*) It gives a measure of the time, which is ordinarily necessary for its radical cure; according to Diday's observations, the mean minimum time is twenty-two months. (*c*) It gives the best criterion for the certainty of the cure; thus, for example, when a man, who has had

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* Such chancres are called by M. Diday "chancroïdes," a name employed by others for soft sores; the latter are denominated by the same writer *chancrelles.*—T. W.

syphilis, is inoculated with matter from an indurated chancre, and the inoculation fails, the man is still under the influence of syphilis; but if the inoculation succeeds, it is a sufficient proof that he is cured.* 10. The treatment of the second is that of the primary attack, except in one important particular:—as, in most cases (16 out of 28), the only effect of the reinfection, when left to itself, is to produce a chancre which is not followed by constitutional symptoms, the medical man, when he meets with a second chancre, should always wait until constitutional symptoms appear, before he prescribes mercury.

M. Ricord, "Clinical Lecture on a Case of Naso-palatine Osteitis, with Destruction of the Soft Palate, caused by Hereditary Syphilis" ('Gaz. d. Hôp.,' 1862, p. 317).—The patient was a girl, æt. 14 years, and the disease had made its appearance five months previously. Ricord gave an explanation somewhat to the following effect, of the cases, in which hereditary syphilis does not make its appearance till many years after birth. Syphilis in the adult, when subjected to no treatment, runs a pretty regular course; when, however, it is interfered with by treatment, the order of the symptoms and the period at which it may reappear, become very uncertain; thus in 1852, he saw a case of gummy tumour, in which the primary disease had been contracted in 1804, and about the same time another case in which it had been contracted at the time of the taking of the Bastile. Hereditary syphilis, in like manner, ordinarily runs a certain course; but if the parents have undergone treatment before the birth of the child, the disease may run an anomalous course in the child, just as it is liable to do in the parents; and just as tertiary symptoms may appear in the latter, without being preceded by secondaries, so in the former the disease may slumber for years and ultimately make its first appearance as an affection of the bones. He recommended in the present case, to remove the loose and diseased bone, to paint the ulcerations with the pure tincture of iodine, to employ gargles of the tincture of iodine (4—5 grammes to 100 grammes of the vehicle); to give internally Ol. Jec. Asell., Ferr. Iod., good diet, and especially the iodide of potassium in increasing doses.

The following papers deserve quotation:—Dr. Köbner, experiments with diluted virus ('Deuts. Klin.,' 1861, No. 47); Professor Sigmund, "On Inoculation as a means of Diagnosis" ('Wien. Med. Wochens.,' 1862, pp. 353, 385); M. Cusco in his clinical lectures rejects the view, that ulceration is a necessary concomitant of the primary disease ('Gaz. d. Hôp.,' 1862, p. 253); Dr. Neumann, "On the Influence of Smallpox on the Course of Syphilis" ('Wien. Med. Wochens.,' 1862, p. 500); B. Hill, "Foreign Opinions of the Nature of Syphilis" ('Brit. Med. Journ.,' 1862, ii, p. 407, &c.); Professor Pellizari, successful inoculation of syphilitic blood ('Brit. Med. Journ.,' 1862, i, 495); Dr. Anstie, case of infection by secondary syphilis—mucous tubercles on the mouth of the suckling causing indurated chancre on the breast of the nurse ('Med. Times and Gaz.,' 1862, i, 534).

On secondary syphilis.—Dr. Anderson "On Syphilitic Psoriasis" ('Glasg.

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* Diday is inclined to think that this method might be employed in some cases of intended marriage; if the patient has really had one attack of syphilis, the result of the second inoculation will in all probability be none, or only a hard chancre without further inconvenience.

Med. Journ.,' ix, 166); Dr. Türck, "On Syphilitic Ulcers of the Naso-pharyngeal Cavity observed by the Laryngoscope" ('All. Wien. Med. Zeit.' and 'Prag. Viertelj.,' 1862, ii, Anal. 16); H. Zeissl, "On Syphilitic Disease of the Lymphatics and Lymphatic Glands" ('Wien. Med. Halle,' 1862, p. 157), "On Pustular Syphilitic Eruptions" ('Spit. Zeit.,' 1862, pp. 15, 29, 37); C. H. Moore, peculiar stunting of the fingers and toes in syphilis (Holmes's 'Surgery,' iii, 276); Anon., "On a Vesicular Affection of the Skin" ('Gaz. d. Hôp.,' 1862, p. 205); F. Roth, "On a Vesicular Eruption" ('Würz. Zeits.,' 1861, p. 376); Mr. Hutchinson, "On Syphilitic Affections of the Nails" ('Trans. Path. Soc.,' xiii, 259, 260).

On congenital syphilis.—Mr. Paget, "On Malformation of the Teeth" ('Med. Times and Gaz.,' 1862, i, 454); Professor Mayr ('Jahrb. d. Kinderh.,' 1861); MM. Devay and Beyran, "On Transmission of Syphilis from the Father" ('Gaz. d. Hôp.,' 1862, pp. 230, 217); Dr. Charrier endeavours to show, that a child affected with hereditary syphilis must have a mother who is or has been syphilitic, and that the father has no direct influence in producing the disease ('Arch. Gén.,' 1862, ii, 324).

On the transmission of syphilis by vaccination.—M. Ricord, two lectures (Trans. in 'Edin. Med. Journ.,' vii, 853); Dr. W. Stricker ('Arch. f. Path. Anat.,' xxii, 285); "Syphilis and Vaccination — a Judgment" ('Med. Times and Gaz.,' 1862, i, 240, 268, 381); N. J. Haydon, case (ib., p. 316); Dr. Pellischek, case ('Wien. Med. Halle,' 1862, p. 179); Dr. Pacchiotti ('Gaz. Hebd.,' 1862, pp. 132, 241, 'Brit. Med. Journ.,' 1862, i, 387); Mr. Lee ('Lancet,' 1862, i, 347, &c.); Anon. ('Brit. and For. M.-C. Rev.,' 1861, xxviii, 44).

Syphilitic affections of internal organs.—M. Pihan-Dufeillay and M. Cornil, cases ('Gaz. d. Hôp.,' 1862, p. 310); cases of syphilitic epilepsy ('Med. Times and Gaz.,' 1862, i, 7, 134); syphilitic disease of the *brain* (ib., p. 135); Dr. Goodwin ('Lancet,' 1862, ii, 60); Dr. Meyer ('Allg. Zeits. f. Psych.' and Schmidt's 'Jahrb.,' cxiv, 312); Dr. Schott, "On Disease of the *Liver* in Congenital Syphilis" ('Jahrb. f. Kinderh.,' 1861, and 'Med. Jahrb. Zeits.,' &c., 1862, i, Anal. 90); Professor Heschl, case of acute atrophy of the liver from syphilis ('Zeit. f. Prakt. Heilk.,' 1862, and 'Med.-Chir. Runds.,' 1862, ii, 110); Dr. Haldane, case of syphilitic deposit in the *heart* ('Edin. Med. Journ.,' viii, 435); M. Montanier, syphilitic affections of the *uterus* ('Gaz. d. Hôp.,' 1862, p. 450); Mr. Canton, syphilitic deposits in the liver ('Trans. Path. Soc. Lond.,' xiii, 113); Dr. Murchison, specimens of syphilitic disease of the dura mater, liver, and diaphragm (ib., p. 250).

Treatment.—Subcutaneous injections in periostitis ('Wien. Med. Halle,' 1862, p. 92); Mr. Lee, the calomel vapour bath ('Brit. Med. Journ.,' 1862, i, 53, 195).

Syphilization.—Sketch of the history of ('Edin. Med. Journ.,' vii, 1124.

Mercury in relation to syphilis.—E. Follin, a critical review of works recently published ('Arch. Gén.,' 1861, ii, 466); Dr. Ulmer ('Wien. Med. Halle,' 1862, p. 185); Dr. Aldinger ('Würzb. Med. Zeit.,' 1861, p. 362); Dr. Kaan ('Med.-Chir. Runds.,' 1862, iii, 1); and the work on this subject by Dr. R. Overbeck (Berlin, 1861, A. Hirschwald).

ANTHRAX AND FURUNCULUS.

Dr. Kleinenberg has published a careful account of this affection ('St. Petersb. Med. Zeits.,' iii, 76): in opposition to the usual statement, he has found it less frequently on the neck or back than on other parts of the body.—Mr. French recommends subcutaneous division of the indurated cellular membrane, to arrest the progress of boils or carbuncles. It is necessary to make crucial, and, when the disease is extensive, even three incisions across the centre, extending completely to the outer boundary of the disease,—free divisions of the centre alone not being sufficient to prevent it from spreading. The sudden interruption to the progress of the malady is not followed by its outbreak elsewhere. Mr. Partridge employed this plan of treatment in a case of carbuncle of the neck. The relief was immediate and recovery rapid. ('Brit. Med. Journ.,' 1862, ii, 52.)

LUPUS.

Professor Hebra finds the galvano-caustic very serviceable: a single application destroys as much as twenty cauterizations with the nitrate of silver: the pain at the time is not severe, and disappears immediately after the operation: the number of applications necessary varies from one to four; and the average duration of the treatment is seventy days. ('Woch. Wien. Aerzte,' 1861, and 'Prager Viertelj.,' 1862, ii, Anal. 48). Mr. T. Hunt, ('Brit. Med. Journ.,' 1862, i, 8), states, that the disease will yield almost invariably to small doses of arsenic internally administered: the escharotic plan is useful for a time, and, after great suffering, the ulcers will heal, but they soon break out afresh in an aggravated form; by a mild, measured course of arsenical medicines, the disease, in almost every case, may be permanently destroyed.

MUSCLES AND TENDONS.

Dr. F. Neuschler gives an account, with plates, of a case of paralysis of the serratus magnus ('Arch. d. Heilk.,' 1862, p. 78).

M. Demarquay has seen three cases of rupture of the sheath of the peronei muscles, accompanied by dislocation of their tendons, an affection to which Monteggia and Robert were the first to call attention. The symptoms and treatment are well exemplified in the following case:—A tolerably vigorous man, thirty-five years of age, fell, so as to throw all his weight on one foot, whilst endeavouring to mount a restive horse; at the same moment he felt a violent pain in the lower part of the leg and foot, and was unable to walk. On a careful examination, Demarquay found neither fracture nor luxation; there was a rather extensive ecchymosis in the position of the peronei, and the patient complained of pain of the same part; besides, on the outer surface of the external malleolus, there was a tense cord, which rolled under the finger, and which, by flexing the foot and gentle traction, could be restored to the place normally occupied by the tendons of the peronei muscles. *Treatment.*—The tendons were reduced in the manner just mentioned, and a compress and bandage applied. After rest for twenty days, the patient could walk by means of a stick, provided he took great care of himself. ('Gaz. d. Hôp.,' 1862, p. 186.)

R. Barwell, "On chronic suppuration of tendinous sheaths, simulating affections of joints" ('Brit. Med. Journ.,' 1861, ii, 351).—The parts most liable to be affected with suppuration in a tendinous sheath, are of course the neighbourhood of the wrist and ankle. The process is often extremely slow; it may commence at once as a chronic disease, but it more usually begins in a more or less acute form from injury or other cause. The pain, lameness, tenderness, and swelling, are at first pretty severe and defined; but in a little time they all diminish, and become more diffused. The patient, however, does not get thoroughly well; he may be able to use the limb a little, but some pain and quaggy swelling continue, which again slowly increase. This swelling has never, after the first acute or subacute stage of the disease, a defined, clearly marked boundary; it fluctuates more or less obscurely, and through a mass of thickened infiltrated tissue. After a time the matter points, and may be evacuated by the knife, or may find its own way out; in either case, there is usually left a troublesome, tortuous sinus, which will not heal. There is no positive sign, whereby we can distinguish a chronic suppuration in a large tendinous sheath or sheaths about the wrist and ankle from a chronic inflammation in those joints; but there are negative signs quite sufficiently significant to render our diagnosis, if carefully carried out, perfectly certain. The narration of a case will best exemplify these points. "A young woman, æt. 18, about three and a half years before, severely sprained her right foot, and was laid up for more than a fortnight. She could move about with difficulty; but in a little time the ankle again became more and more painful, until, about eight months after the injury, it was impossible to put any weight on the foot. The limb was much swollen. She lost her appetite, and slept but little. Blisters, splints, irritating ointments, &c., were used, but apparently with no benefit. In about six months, an abscess opened a little above the ankle-joint, near the front of the inner malleolus; after a further interval, another opened lower down, over the dorsum of the foot. During the last six months, several London surgeons had seen the case, which was set down as one of old and inveterate joint-disease; amputation was recommended. . . . I found a strumous-looking but robust girl, about eighteen, whose health did not appear to be affected by suffering or exhaustion. The right foot and ankle were a good deal swollen in front, and there were three mouths of sinuses, one to the outer side of the lower end of the tibia, the other two near each other on the dorsum of the foot. The shape of the swelling was not very defined; it was greatest over the front of the joint, was broadly fusiform, running up the leg and down the foot towards the toes, and it fluctuated obscurely from one part to the other. Although the boundaries of the tumefaction were by no means defined, and although the whole limb was swollen, there was an evident distinction between the character of this condition in front of and behind the joint. In the former situation, it might be discovered that, below the sodden and infiltrated skin, the anatomical parts were really swollen; while, behind the joint, manipulation showed that the swelling so manifest to the eye was mere puffiness of the skin and subcutaneous cellular tissue. The deep parts were not affected. This freedom from enlargement was most significant behind the malleoli; in which situation there is always considerable and deep enlargement in ankle-joint disease. The joint could be moved within certain limits and in a certain direction without pain; thus, passively bending the foot upwards was painless, but any attempt to extend it (to point the toe) so as to put the anterior tendons on the stretch, could not be borne. I diagnosed the absence of joint disease, asserting that the case was one of suppuration in the anterior tendinous sheath. On August 16th, chloroform having been administered, I passed a grooved probe into the sinuses, and opened them entirely, being careful to leave no passage, however small, unexposed. One vessel was tied, the wound was stuffed with lint, and a bandage applied. In a fortnight the patient could walk a little. On September 23rd, the wound having entirely healed, she left Richmond walking quite well, perfectly cured."

NERVES.

Mr. Paget, clinical lecture on a neuroma of the sciatic nerve ('Med. Times and Gaz.,' 1862, i, 453; and 'Lancet,' 1862, i, 221); two cases of neuroma ('Med. Times and Gaz.,' 1862, i, 454, 455).

A. Verneuil has published a case of a disease, which he proposes to call plexiform cylindrical neuroma ('Arch. Gén.,' 1861, ii, 537); the patient, æt. 41, had enjoyed good health to the age of 37, when pains at first slight and afterwards severe occurred in the end of the prepuce, and were followed by an eruption of herpes; two years later, micturition became painful and difficult, the urine thick; severe pains in the loins also supervened. Civiale diagnosed inflammation of the neck of the bladder, absence of any calculus. Finally there occurred painful erections, seminal emissions at night followed by great increase of the pains in the prepuce and bladder, and after a time, loss of appetite, sleeplessness, and great mental depression. The penis was now almost constantly semi-erected; the patient held the end of the prepuce in his hand throughout the day, and had to take great precautions at night. On examination Verneuil found, that firm pressure on the end of the prepuce did not cause very acute suffering, but when he drew the end of his finger gently over it, the patient bounded back as if electrified, his face became red and covered with sweat, and he stated that gentle stroking of this part caused an indescribable sensation, which radiated to the perinæum, bladder, scrotum, loins, and ultimately to every part of the body, provided the stroking was continued. Verneuil considered it to be a neuralgia dependent on some local change in the cutaneous nerves. Removal of the anterior half of the prepuce caused immediate improvement; the local symptoms almost entirely disappeared, the general condition rapidly improved. Verneuil found, in the part removed, with a low magnifying power a very rich nervous plexus, and with a higher power great thickening of the nervous filaments in this plexus. The membrane enveloping the filament was much developed, and besides this change, in many parts the primitive tubes were widely separated from one another, so that a filament, which from its size would normally contain not less than forty to fifty primitive tubes, contained only a single one, surrounded by an extremely thick covering. Verneuil notes, that where, as in corns, the cutaneous nerves are subjected to pressure, they become larger through thickening of the neurilemma, but the nerve-tubes rest in the centre without any appreciable change.

Dr. H. V. Carter ('Trans. Path. Soc. Lond.,' xiii, 13), has described and figured a condition of the nerves in anæsthetic leprosy, which somewhat resembles that found by Verneuil in the prepuce.

C. E. Brown-Séquard states on the treatment of the remote or reflex effects of the irritation of a nerve that all, that is necessary in some cases, is to gain a few days to allow a wound to heal up. He proposes in such cases to lay bare the nerve above the wound, and drop sulphuric ether upon it. This operation, especially if repeated, will render the nerve, for many days, quite unable to transmit any irritation from the original wound (Holmes's 'Surgery,' iii, 893). He also cites three cases of delirium from local injuries of nerves (ib., p. 888).

ARTERIES.

Dr. J. Ehrmann on ligature of the carotid (pamphlet, Paris, Baillière; and 'Gaz. Hebd.,' 1861, p. 790; also report by M. Giraldes, 'Gaz. d. Hôp.,' 1861, p. 491). Excluding cases of ligature of both carotids, the author has collected forty-two cases in which cerebral symptoms were presented; thirty of these proved fatal. In two of the cases, where death was clearly caused by the sudden interruption of the cerebral circulation, a peculiar condition (pathological closure of the other carotid and of one vertebral) was found, which places them in a separate category. As to the rest, there occurred:—hemiplegia of the opposite side to the ligature, 28; hemiplegia on the same side, 2; convulsions, 2; coma with or without delirium, 6; intense cephalalgia on the side corresponding to the ligature, 2. The total number of cases of ligature of one carotid was 187, and accordingly the per-centage was 22·4. If to these be added the cases of ligature of both carotids and those of the innominata, the total number amounts to 213, and that of the cases accompanied by cerebral symptoms to 47, the proportion remaining the same. In the production of these symptoms, the author attributes an important part to the size of the communicating arteries of the circle of Willis: he examined these vessels in 120 cases, and found them so narrow in 19—20 per cent., as decidedly to account for interruption of the cerebral circulation, when the carotid had been ligatured. In a case of thyroidean tumour pressing on the left carotid, the patient had twice paralytic symptoms on the opposite side; the post-mortem examination showed a perfectly healthy brain, but the posterior communicating branch was filiform and the anterior communicating artery extremely narrow, so that the carotid was isolated from the other trunks. The author employs the same theory to explain the strange immunity from cerebral symptoms presented by ligature of both carotids, provided the two operations are separated by a sufficient interval. The innocuity of the first ligature is indeed owing to the presence of tolerably large communicating arteries, which afterwards probably dilate still more.

Only thrice, in fourteen cases, did cerebral symptoms appear after the second ligature, and in all three cases they had also accompanied the first operation.

Mr. R. Davis communicates a case of ligature of the carotid between the two portions of the sternomastoid ('Edin. Med. Journ.,' vii, 685). Professor Middeldorpf recommends in wounds of the palmar arch or in cirsoid aneurism of the head, ligature *en masse* without incision of the skin. Silver or iron wire should be used; the skin should be punctured from a third to an inch and a half from the artery, and the knot tied over a little roll of adhesive plaster; the wires should not be left more than six or eight days ('Abhandl. d. Schles. Ges.,' 1861, 3, and Grävell's 'Notizen,' xiv, 443). M. Nélaton employed cauterization with chloride of zinc successfully in a case of hæmorrhage from the palm of the hand, the result of sloughing ('Gaz. d. Hôp.,' 1862, p. 193). Case of ligature of the common iliac artery for hæmorrhage, by Mr. De Lisle ('Army Med. Rep.' for 1860, p. 453): and a successful case by Mr. Bickersteth ('Edin. Med. Journ.,' viii, 8).

ANEURISM.

Dr. Campbell records a case of gluteal aneurism ('Lanc.,' 1862, ii, 41): the tumour was of the size of a hen's egg, and the trunk of the vessel was tied where it emerges from the sciatic notch, without opening the sac: not half an ounce of blood was lost, and the ultimate result was satisfactory.

Mr. Syme reports the following case of iliac aneurism ('Med.-Chir.Trans.,' xlv, 381): a seaman, æt. 31, received a violent blow on the left groin in November; an aneurism formed, and on April the 18th, he was admitted into the Royal Infirmary. "Upon examination, I found the tumour even larger than had been expected. It extended in length from below Poupart's ligament considerably above the umbilicus, and stretched from nearly two inches beyond the middle line of the abdomen, towards the right side, completely across the left iliac region, so as to overlap the crest of the ilium. Throughout the whole of this enormous swelling there was a strong pulsation and distinct aneurismal bruit; there was also great pain from pressure on the nerves, and considerable œdema of the thigh, from obstruction of the venous circulation. From the history of this case it seemed probable that the artery had been ruptured in the groin, and that, if an opening were made into the sac, the pressure of the finger would prevent hæmorrhage, until the clots were turned out and ligatures applied. On the 20th of April, chloroform having been administered, I thrust a knife into the aneurism, about an inch above Poupart's ligament, and at the same distance from where the anterior spinous process of the ilium was supposed to be. Having inserted my forefinger, and found nothing but a confused mass of clots resting upon the bare bone, I made room for the middle finger also, and, still obtaining no satisfactory information, enlarged the wound sufficiently for thrusting in the whole hand, but with such force that the integuments embraced it tightly at the wrist, so as to prevent any escape of blood. I then ascertained that the artery was not in its proper place, and felt that it would be necessary to lay open the sac in order to discover the seat of rupture. But as this could not be done without causing a fatal hæmorrhage, so long as the circulation continued in the vessel concerned, I availed myself of a screw clamp which Professor Lister, of Glasgow, had had constructed for effecting compression of the aorta. This he applied so as to stop pulsation in the right groin, and I then, by means of a probe-pointed bistoury, at once dilated the wound to the extent of six inches, parallel with the crest of the ilium. By the united action of both hands all the blood and fibrinous clots, to the amount of six pounds by measurement, having been scooped out, the surface of the sac was carefully examined, when a small oval aperture was detected in what might be called the roof the cavity, towards its inner side, high up in the pelvis. Upon relaxation of the screw, a gush of blood left no room for doubt as to this being the arterial orifice, but upon examination, it was found to be separated from the vessel by a very dense texture forming the sac. Having divided this, I dissected carefully, so as to bring the arterial coats distinctly into view, and passed a ligature on each side of the opening. When these were tied, the blood still issued, though not with the same force as it had done previously, and we therefore inferred that the internal iliac originated from the portion of vessel which had been included. A ligature was applied, with the view of embracing it, and then the clamp was taken off, without any further bleeding. The edges of the wound were kept in contact by silver sutures, covered with dry lint, and gently supported by a bandage. The patient, who had slept quietly during the whole process, then awoke, quite unconscious of the arduous undertaking in which we had been engaged. Everything went on favorably afterwards: the patient was at once relieved from the pain, which he had been able to endure only through the use of large opiates, the œdema of his thigh quickly disappeared, and a slow but progressive improvement was observable in his general health. On the nineteenth day after the operation all the ligatures came away together, and then the wound gradually contracted. The patient's state seemed very precarious until the end of nearly three months, when so decided a change for the better took place as to remove all anxiety. But soon after this, from unfortunately sleeping with an open window, inflammation of the pleura was excited, and proved fatal on the 31st of July. On examination it was found that the external iliac had been torn completely across and drawn up into the pelvis, where its open mouth, being mistaken for a slit, had imposed upon the gentlemen who had assisted me, and myself, so as to make us suppose that the ligatures were applied immediately above instead of below the bifurcation of the common iliac." Mr. Syme "feels persuaded that while aneurisms of the popliteal, femoral, and carotid arteries are proper subjects for ligature of the vessel without opening the sac, those of the axillary and iliac arteries should be treated by ligature at the seat of rupture, especially as I have shown that in both of these situations hæmorrhage may be effectually prevented during the operation by pressure applied nearer the heart."

In the same volume (p. 441) Mr. Lee records a fatal case of aneurism of the external iliac, treated by digital pressure; it in many respects closely resembles Mr. Syme's case which has been just quoted: the treatment appeared to have at first a favorable effect.

P. Rigaud ('Clin. Chir. de Strasbourg,' 4th part, Par., 1862) proposes an anatomical classification of aneurisms into three classes; 1, by dilatation; 2, extravascular, where all the coats are ruptured; 3, arterio-venous; he further divides each class into genera and species. Mistakes have occurred in diagnosis from the absence of pulsation; Rigaud states that in a very large and long-standing aneurism, the pulsations become at first intermittent, that is, can sometimes be felt, sometimes cannot; that they then diminish to a simple oscillation, which it is often difficult to determine; and that finally every species of internal motion ceases,—the tumour is scarcely diminished by direct compression, and still less by pressure on the artery; in such cases a certain, unequal resistance, the result of commencing disorganization, may cause the suspicion of cancer beginning to soften; an exploratory puncture may be necessary, and even then, a soft yellowish matter, such as is found in colloid osteosarcoma, occasionally escapes; this matter is, however, really fibrine deprived of its colouring substance, and is soon replaced by blood, which escapes in such quantities, as to leave no doubt about the diagnosis. The author relates an interesting case, which occurred as far back as 1831:—T. Roger, æt. 31, had been attacked ten months previously with violent pains about the right shoulder, for which he consulted a bone-setter, who treated him with great roughness. Some months later, he was seen by the author, who inclined to the opinion of aneurism, though unable to come to a full decision; he was again lost sight of, until an exploratory puncture had been made, from which a large amount of blood had escaped; syncope had ensued, and the hæmorrhage had been stopped by direct pressure. Rigaud was now informed, that the tumour had, before the puncture, increased to the size of a child's head, pushing forwards the pectoral muscles, extending inwards to the costal cartilages, upwards to the clavicle, and downwards to the anterior edge of the axilla. Some doubt, as to the nature of the disease, was again excited by the statement, that the tumour was now only half the size it had been previously to the puncture; accordingly, to clear it up, Rigaud enlarged the puncture and introduced his finger; he found a vast cavity, with smooth walls, filled with coagula, and on the withdrawal of the finger there was a violent gush of blood, which was stopped by compression of the subclavian. The operation for ligature of the subclavian was long and difficult; among other things, a vein was divided, into which air appeared thrice to be sucked; finally, however, everything was terminated in a satisfactory manner. This operation took place on the 21st November, 1831; the ligature came away on the 4th December, and the patient continued in excellent condition till the 9th; then, however, an enormous collection of pus formed in the aneurism, and was discharged by an aperture made at the lowest point; nevertheless the patient became weaker, diarrhœa set in, and death took place on the 5th January:—six weeks after the operation, a month and two days after the discharge of the ligatures. On this case, the author remarks, that it would probably be well, in old and large aneurisms, to open freely the tumour, and evacuate all its contents, immediately after ligature of the artery. Another case recorded (ib., p. 93) is that of a large traumatic aneurism of the thigh, of six months' duration, the femoral was tied just above the tumour, and recovery took place without a bad symptom. Mr. Hart communicated to the Royal Med. and Chir.

Soc. ('Lancet,' 1862, i, 147) seven additional cases in which aneurism of the extremities had been successfully treated by flexion of the limb: in the first case there was a popliteal aneurism, of the size and shape of a large lemon; Mr. Hart desired in this case to separate the effect of treatment by flexion as clearly as he could from any collateral or adjuvant agencies. He did not, therefore, employ any form of medical treatment whatever, nor did he invalid the patient by enjoining the horizontal position and confinement to bed. He rolled the leg in a flannel bandage from the foot upwards, stopping below the tumour so as not to compress it in any way. He then bent the leg on the thigh, and retained it in the flexed position by means of three pieces of bandage attached to the ankle and along the leg. The patient was allowed to rise and go about the room by the help of a crutch. The cure was practically effected in six days, without the use of any apparatus—without the intervention of any watchers or assistants—without risk or danger. The patient was cured of popliteal aneurism—a disease formerly so formidable—without being confined for a day to bed. The second case was one of popliteal aneurism, treated by Mr. Spence; the superficial femoral was tied in May, 1857, with the effect of producing solidification of the tumour. But the pulsation recurred a few days before his second admission, in August, 1858, and the tumour was then as large and pulsating as violently as before the artery was tied. Compression was carefully employed over a period of upwards of five months, but the tumour was at the end of that time increasing instead of diminishing. Treatment by flexion was commenced on the 20th of May, 1859, and on the 23rd of June, there was not the slightest pulsation to be felt in the aneurism, which was firm and considerably diminished in bulk. Since his discharge, he has returned to his usual occupation of coal-carter, which requires him to walk considerable distances; but when last seen, there was no tendency to return of the aneurism. The remaining cases were treated by Messrs. Pemberton, Craven, Adams, Colles, and Prichard. Mr. Hart remarks, that the first results of any method of treatment are likely to be less perfect and less uniformly successful than those which follow upon a larger experience and a more assured application. It is probable that attention to certain points of detail may tend to prevent pain and inconvenience. By carefully bandaging the limb, support is given to the superficial veins and rest to the contracted muscles. Friction of the limb upwards may serve the same purpose. Inunction of the knee-cap with oil and chloroform diminishes the sensation of stiffness and relieves pain. By allowing the patient to rise from his bed and dress himself, much of the tedium is obviated and coagulation of the fibrin aided. Sleep follows much earlier at night. Any favorite habit, such as smoking, may be usefully permitted, with the same object. It is desirable to bespeak the assistance of the patient himself, by explaining the nature of the malady and treatment. Flexion should be employed with care and graduated. Failures had mostly occurred through employing the flexion too forcibly at first, and not allowing the patient enough liberty of general action.

Dr. B. Schmidt gives an account of an aneurism of the radial artery ('Arch. d. Heilk.,' 1862, p. 569) which occurred in an infant of twenty weeks, and was cured by compression of the brachial.

M. Nélaton, 'Clinical Lectures on a case of Arterio-venous Popliteal Aneurism' ('Gaz. d. Hôp.,' 1862, pp. 137, 141). "The patient, a man, aged twenty-seven, had been wounded, two years before his admission, by a poignard in the right knee; a little hæmorrhage, easily stopped by flexion of the leg on the thigh, was the immediate result. But, although it did not appear externally, the bleeding still continued internally, so that after some time the leg and foot became very large and tense; after a few days, this swelling began to diminish from below upwards, whilst the popliteal region, which alone continued of considerable size, became the seat of beatings and of vibrations. Pains, radiating to the foot and along the anterior tibial nerve, occurred during the first two or three months. From that time the tumour remained stationary, but the reappearance of the pains induced the patient to enter the hospital. On his admission, he presented the following symptoms:—cicatrix of the wound, an inch and a half above the head of the fibula; the normal hollow in the popliteal space is replaced by a projecting surface formed by a tumour, which is bounded at its sides by the tendons of the biceps, semi-membranosus, and semi-tendinosus. The tumour is much the most prominent at the inner side: it is the seat of most violent pulsations, and of vibrations which are felt by the hand most distinctly at the outer side. Such extremely powerful, energetic pulsations only occur in aneurism; there is, indeed, a peculiar expansion in very vascular fibro-plastic tumours or encephaloid cancers of bone, which resembles that of aneurism; it has not, however, the strength of impulse, which is due to arterial tension. The vibration or thrill is transmitted along the vessels, both upwards and downwards; it can also be felt over the soft parts of the leg, and bones. By auscultation there is heard a continuous bruit; at the moment of the cardiac systole, there is, however, a reinforcement, a buzzing, which combines with the first sound, and which has been compared with the buzzing of the bee and the purr of the cat. At the outer side where the thrill is most marked, there is a bellows-sound, exactly like that of a secondary false aneurism (circumscribed traumatic aneurism), which, almost before its conclusion, is replaced by the sound of reinforcement. The veins of the leg have become much dilated, and hence varicose ulcers have formed. Compression of the femoral stops all pulsation, and the tumour can then be almost entirely emptied. The patient experiences difficulty in walking, and a numbness of the limb, which augments even to pain.

Such a thrill, as occurs in the present case, is quite distinct from the slight fremitus, which may accompany the bellows-sound, in an ordinary aneurism. The continuous bruit with reinforcement (jerking bruit) is found in another disease, in the so-called cirsoid aneurism or arterial varix, especially on the head. In the latter affection the arteries are not only dilated, they are also lengthened and tortuous. How then can the cirsoid be distinguished from the arterio-venous aneurism? By the thrill. That which indicates a communication between an artery and a vein is always most intense at one point, the point nearest the communication; in the present case, there is such a spot at the outer side of the popliteal space, over the cicatrix of the wound. On the other hand, in cirsoid aneurism the thrill is equally intense over every part of the dilated vessels; there is no point, at which the thrill and the bruit present any special intensity. The increased growth of hair over the tumour is very marked—a circumstance which has been pointed out by M. Broca. The temperature of the tumour is found to be one degree higher than that of the rest of the limb. The sphygmograph of M. Marey clearly proves that there is a diminution of power in the pulsations of the vessels below the tumour, the dorsalis pedis, and especially the posterior tibial. (After an account of the various varieties of arterio-venous aneurism, Nélaton arrives at the conclusion that the present case is one of varicose aneurism, the aneurismal tumour lying between the artery and the vein.) The prognosis is much less serious than in the case of a simple aneurism. The blood always finds a ready escape, and thus the sac runs no danger of rupture, as sometimes occurs in the ordinary form.

Treatment.—The oldest on record is direct compression of the aneurism and the surrounding parts. Scarpa mentions it in his work, but only to completely interdict its use in cases of arterio-venous aneurism, founding his opinion on the fact, that by compression, this aneurism might be transformed into an arterial aneurism, which is of a much more serious character. It is, he says, desirable to preserve the communication existing in the arterio-venous tumour;—yet if the latter form is less dangerous, it is also on many accounts much less easy to cure, especially because a coagulum forms in it with much greater difficulty, owing to the great quantity of venous blood, and the almost constant agitation to which all the liquid mass is subjected. Indeed, in the present case, the sac does not contain a trace of coagulum. In 1844, I treated by compression an arterio-venous aneurism of the arm, and had the good fortune to witness its transformation into the arterial, which Scarpa had feared; I then ligatured the artery according to Anel's method, and the patient recovered. On another case of arterio-venous aneurism presenting itself to me, instead of ligaturing the brachial artery, I caused the pressure to be continued for a much longer period, and saw a complete cure succeed the change of the arterio-venous into the arterial variety. These facts were published, and gave rise to various debates. The idea, that one species of aneurism could be transformed into another, was so far removed from the general opinion, that many doubts of its genuineness were openly uttered. It was asserted that the decrease of the vibrations, and the occurrence of an intermittent in the place of a continuous blowing sound, were not decisive phenomena. I cannot admit such a statement, for not only is the vibration of an arterial aneurism so different from that in the arterio-venous, that they cannot be mistaken for one another, but also, on the other hand, the ear can easily perceive the transition of the continuous into the intermittent bruit, which is strikingly characterised by the interval of silence between two consecutive sounds. This question remained undecided for some years, when opportunity occurred for proving both the transformation and the cure in fresh cases of arterio-venous aneurism. The discussion was resumed, and, I think that now no one doubts the reality of this transformation. If we apply these remarks to the case before us, we shall easily see, how little likelihood there is of success, especially when we bear in mind the age of the tumour. The four arterio-venous aneurisms that I have treated successfully, only dated from one, two or three, six months at the most, whilst the disease in this case is of more than two years' standing: I greatly fear that pressure will not effect a complete cure. Time, indeed, imposes a limit beyond which there is no hope of inducing such a transformation: experience has yet, however, to teach us the exact period.

2nd. Two other methods, founded on the same principle, coagulation of the blood in the sac, are—

a. Acupuncture and electropuncture.
b. Injection of perchloride of iron.

Acupuncture has long been abandoned; it did not satisfy in any respect the expectations it excited. The presence of a foreign body in a cavity filled with venous does not act as in one filled with arterial blood; only a very minute coagulum collects around a needle inserted in the venous blood. In our patient, we have a mixture of venous and arterial blood, and thus the case would not be fitted for treatment by acupuncture.

The injection of the perchloride of iron gave at first magnificent results, but at a later period some unfortunate cases ended badly, thus in gangrene of the extremity; hence this method became proscribed as extremely dangerous. For my part, I think that this decision was too hasty; I can adduce many cases of success which strongly support the employment of this injection. A man, still young, came under me last year with an arterio-venous aneurism of the gluteal region, of the size of the fist, the seat of violent pulsations and of a continuous bellows-sound: it was an aneurism of the sciatic artery placed, as it were, astride on the sciatic notch, and consequently presenting two lobes, an external one corresponding to the buttock, and another situated in the pelvic cavity, which could be felt on examination by the rectum. Messrs. Velpeau and Broca were called in by me to see the patient; they approved of my intention of employing the injection, every other method being unsuitable. In order to produce coagulation, it was necessary to interrupt the current of blood through the aneurism during the operation and for a little time afterwards: I resolved to compress the aorta, a proceeding, which, as we know from experience, is not dangerous, provided the compression only lasts from twenty to twenty-five minutes. The patient was laid upon his back on a bed, which had at the part corresponding to the nates an opening large enough to allow the tumour to be seen; I made a puncture with a little silver trochar; as at first nothing escaped, I presumed I must have pierced a clot, and accordingly I inclined the canula in another direction, a proceeding which was followed by a jet of blood. I then injected thirty-two drops of the solution of perchloride of iron at 25°. No accident followed: forty-eight hours later, the aneurism still pulsated, but the blowing sound had completely ceased. Ten days after, the injection was repeated, with the same care to prevent the circulation of blood in the tumour by compression of the aorta. From this time, the aneurism lost all its characteristics, and the patient left the hospital perfectly cured. The method by injection was therefore of immense advantage in a case, where every other kind of treatment was inapplicable.

I will cite another instance:—Last summer, a young surgeon sent me a patient with an arterio-venous aneurism developed spontaneously between the fourth and fifth metatarsal bones. With the assistance of

Professor Gosselin, who compressed the anterior and posterior tibial arteries, I injected into the tumour ten drops of a solution of perchloride of iron at 25°. After this single injection there was a remarkable change; indeed, in twenty-four hours the continuous blowing sound became intermittent. For ten days, the aneurism remained stationary, but after a second injection the pulsations completely disappeared, and the tumour vanished with them.

It follows, that the method by coagulation must not be entirely rejected. But with our patient we must hesitate before applying it, because from the volume and position of the tumour, gangrene of the limb might unhappily follow the inflammation of the aneurismal sac.

I come now to the chief means of treatment for aneurisms, I mean the ligature. Arterio-venous aneurisms have long been treated by the ligature, according to Anel's method; thus the ligature of the femoral in Scarpa's triangle for popliteal aneurism, and that of the brachial in the middle of the arm for those at the bend of the elbow. With regard to the results of the operation, we have three things to consider; 1st, the effects of the ligature upon the artery, at the very point of constriction; 2nd, its influence over the general circulation of the limb; 3rd, its effect on the aneurismal circulation, or in fact, the changes which occur in the cavity of the aneurism.

a. We know that in the arterio-venous aneurism the coats of the artery undergo remarkable modifications; even the unaided eye perceives a singular dilatation of the vessel, so that its calibre becomes much greater than it was before the wound. This change reaches so high a point, that in a popliteal aneurism it may be found to extend to Scarpa's triangle. The walls of the artery are lax, and resemble those of a vein; it is said that the veins become arterialized, the reciprocal may also be admitted: now, a ligature cannot be suitably applied to an artery which has suffered such a change of structure; it comes away prematurely, and secondary hæmorrhage is the result. Such is a first and indisputable danger.

b. The results of experience are equally conclusive, as to the general circulation of the limb. We know perfectly well that these ligatures have an extreme tendency to produce gangrene of the distal parts. Many explanations of the fact have been given, but all may be reduced to the simple statement, that arterial and venous blood, mixed together, circulate in the artery. Let us take, for example, arterio-venous aneurism with the sac between the vessels, and let us suppose the ligature to be applied to any point whatever of the artery above the aneurismal sac. The circulation in all the lower part of the artery being interrupted, the collaterals dilate and convey the blood from a point above the ligature to another below. The circulation is thus restored, but the blood which arrives by this collateral channel has a tendency to pass in two directions, or in other words, to remount to the aneurism, and to descend lower: to gain, however, the lower part of the artery it must overcome the resistance offered by the capillary vessels; this it cannot effect, and thus it ascends, to empty itself into the aneurismal sac. This sac, offering no longer any tension, allows the venous blood to penetrate within and mingle with the arterial, and it is this mixture of the two which induces gangrene of the limb. According to the American statistics by Norris, ligature of the femoral artery has been employed five times for five popliteal aneurisms, with the following results; in three cases, gangrene of the limb, in the fourth death ensued on the sixth day from hæmorrhage, the fifth case is doubtful. Another statistical report presents somewhat similar results; in three cases of ligature of the external iliac for three arterio-venous aneurisms of the femoral artery, one ended fatally from attacks of hæmorrhage, and two were followed by mortification of the limb. Anel's method, applied to arterio-venous aneurism, is therefore attended with very serious risk.

c. The influence of the ligature upon the aneurismal circulation is negative; the result is a total failure. The sac allows the venous blood to enter, and such blood, constantly agitated, does not present the condition necessary for coagulation.

It follows, that for these various reasons this method must be rejected.

A last method consists in opening the sac and applying ligatures upon the artery both above and below. All communication between the artery and the vein is thus cut off. This operation has been tolerably often performed; it is potent, but very difficult. In fact, the development of an aneurismal tumour in any part whatever of the human body almost entirely destroys the normal relations of the artery with the surrounding tissues, and, in addition, the stream of blood, which never ceases flowing during the operation, prevents the surgeon clearly seeing the incisions he is obliged to make. I remember an operation of the kind performed by Roux, the only surgeon, perhaps, who much employed this treatment. The operation was deplorable, everything went wrong. The median nerve was first tied in mistake for the brachial artery; the hæmorrhage continuing just as copious, the artery was at length discovered, but instead of passing the ligature behind, the vessel was pierced from side to side, thus unintentionally establishing an arterial seton. The interruption of the hæmorrhage was of but short duration, and its reappearance necessitated amputation of the arm.

A. Bérard opened at Necker the sac, with the view of finding the two ends of the artery and applying ligatures; he could scarcely finish the operation.

From what I have seen, and from dissections I have made of arterio-venous aneurisms, I believe myself in a position to affirm, that the method of operating by opening the aneurism and proceeding to tie the two ends of the artery above and below the sac is very long and very difficult. Even should its performance be successfully accomplished, what is the consequence? Very frequently the interior of the sac becomes inflamed, any clots of blood it may contain undergo putrid decomposition, most serious symptoms make their appearance, and the life of the patient is seriously endangered. Should we not, in the case before us, weigh well the dangers that may arise from so important an operation? Certainly;—we should especially remember the statement made in the beginning of these lessons, that an arterio-venous aneurism has not, like the arterial, a tendency to enlarge and rupture; that there is a true safety valve in the communication established between the artery and the vein; and that there is not in this form a cul-de-sac, on which all the force of the arterial tension is concentrated.

Notwithstanding his aneurism, this man has never discontinued his business as a hairdresser, which requires him to be constantly in a standing position. For a year, his tumour has not increased in size; it has been stationary; the pains of which he complains must be ascribed to the presence of varices and of varicose ulcers, rather than to the aneurism itself. In this case, we intend to apply for a rather long period, methodical compression beginning at the foot and reaching to about the middle of the thigh, so as to oppose any increase of the aneurismal sac. By this means the man may be able, without too great fatigue, to continue his disadvantageous employment; should he become, hereafter, unable to walk, or his pains extreme, it may then be necessary to entertain the question of amputation of the thigh, an operation, however, which is far too serious and too important, to be adopted, before at least the trial of other means, which yet may very probably not lead to any satisfactory result."

Rigaud (l. c., p. 102) records a case of arterio-venous aneurism of the common carotid. Professor Pitha records a case of arterio-venous aneurism in the bend of the elbow; there was a high division of the brachial, and the communication was between the radial artery and the median basilic vein. After an ineffectual attempt at treatment by flexion, digital compression was employed for nine days and nights without interruption, but also without the least effect. The artery was ligatured on the 10th of April four inches above the tumour; the ligature came away fifteen days later. The tumour became harder, and gradually diminished, so that on the 23rd of May it was only half its original size ('Wochenb. d. Zeits. d. Ges.,' 1862, p. 257).

EMBOLISM.

M. Broca records the following case ('Gaz. d. Hôp.,' 1861, p. 366):—Louis C—, æt. 61 years, was brought to the infirmary of Bicètre on the 20th June, 1861, on account of a gangrene of the little toe on the left side. He had been suffering from muscular paralysis for more than thirty years. The toe is black, hard and mummified; in the surrounding parts there is neither redness, swelling, nor pain. No pulsation can be felt in either extremity, nor can any clots be perceived with the finger. The temperature is the same on both sides in the foot, and in the upper half of the thigh; it is—

In the popliteal space, on the left side………	36·5°	
" " right side ……	33·0°	
		Difference = + 3·5°
Behind the internal malleolus, on the left side	28·3°	
" " " right side	28·6°	
		Difference = — 0·3°

Thus at the level of the knee, the left extremity is much warmer than the right; on the contrary, at the level of the ankle, it is a little cooler. These differences were found for a number of successive days. Up to the 12th July, the gangrene spread very little; but a bedsore on the sacrum made rapid progress, diarrhœa occurred, and the patient became much weaker. On the 12th July the whole dorsum of the left foot was cold, violet, and insensible; in a single night the disease had rapidly spread over the greater part of the foot under the form of humid gangrene. On the 13th the sphacelus extended over the whole of the foot and the lower fourth of the leg: the temperature was—

In the popliteal space, on the left side.........	34·6°	
” ” right side	34·8°	
		Difference = — 0·2°
Inner side of the leg, on the left side	31·8°	
” ” right side	33·6°	
		Difference = — 1·8°

The gangrene spread no further: the patient died on the 15th. Post-mortem examination; fatty degeneration of the muscles; bone of the extremities so soft, that even a bad scalpel pierces the condyles of the femur; anterior roots of the spinal nerves extremely soft. The abdominal aorta is obliterated at its bifurcation by a clot; the latter has probably been detached from a coagulum, which was found in the left ventricle. Both common iliacs and both external iliacs as far as the origin of the epigastric are obliterated; the first inch and a half of the internal iliac on the right side is obliterated; on the left side the same artery is closed to a much greater extent. On the right side, all the arteries of the lower extremity are small, yet permeable; on the left side the femoral is obliterated at the opening in the adductor magnus, the popliteal and the upper part of the three arteries of the leg are also obstructed. The clot in the aorta is probably of some standing, that in the popliteal of recent date.

Broca has already shown that after ligature of the principal artery of an extremity, the temperature of the skin becomes elevated in the course of a few hours, and remains so for many days. He found the same increase in the heat to be produced by compression of the artery, and it is obvious that in the present case the increased temperature was produced in the same way.

Gangrene occurs, when the arterial obliteration extends to such a degree upwards and downwards as to prevent the ordinary collateral circulation; it very rarely happens, when only a limited part of the vessel is obstructed. In Norris's table of 204 cases of ligature of the femoral, there are 17 in which the operation was performed for other causes than aneurism, and among these there was not a single case of gangrene. In 20 cases of ligature for femoral and 6 for tibial aneurisms, such a result never occurred. Yet out of the 204 cases, there were 28 of gangrene; all, however, occurred in cases of popliteal aneurism, and they form the frightful number of 18 per cent. of the total number of popliteal aneurisms treated by the method of Scarpa or of Hunter. Why, then, should the operation in this particular case be so often followed by gangrene? Because the ligature is placed at a considerable distance from the tumour; because the artery, obliterated at the point of ligature, becomes again obliterated at the seat of the aneurism; and because the blood, which is carried to the upper part of the popliteal by a first chain of anastomoses, is no longer propelled with sufficient force to overcome the obstacle presented by the second obliteration. The greater the distance of the ligature from the aneurism, the greater the tendency to gangrene; in this respect the process of Scarpa is very much worse than that of John Hunter. When the ligature is not placed at too great a distance, the two obliterations are continuous with one another, and the blood, having only a single obstacle to overcome, triumphs almost with certainty. These considerations are supported by the present case; the first obstruction, though in the aorta, did not produce gangrene; but a second having occurred, gangrene was the result.

M. Broca considers that the temperature may occasionally be of use in determining the point of obstruction, for the artery is obstructed at the point, where it is elevated; it is true that the plug can often, but not invariably, be felt with the finger, and on the other hand, there may be no pulsation, and yet there may be no obliteration.

In a second case (ib., p. 516), Broca clearly proved, that the increased heat was not owing to an arteritis, for the temperature directly over the vessel was only + 0·6° higher, whilst on other points of the circumference it was at the same time + 2°.

In a case under Mr. Erichsen ('Lancet,' 1862, i, 600) the first symptoms appeared on August 4th; the gangrene gradually extended to the knee, where it appeared to stop on August 10th; on August 24th amputation; sloughing of the stump; death on September 13th. Mr. A. L. Adams reports a case of recovery after amputation ('Med. Tim. and Gaz.,' 1862, i, 156): the first symptoms appeared on the 25th of February; the gangrene gradually advanced, but at last a line of demarcation formed across the leg immediately below the calf, and became fully developed on the twenty-second day; on the following day, March 19th, when he was under the influence of chloroform, the limb was removed by the circular operation at the lower third of the thigh, after a vain attempt to operate under the knee, where the bellies of the gastrocnemius were found in a state of slough, and gangrene spreading upwards and beneath the external line of demarcation. For about two and a half years, the patient had had a femoral aneurism on the same side; it decreased in size from the date of the accident, and two months afterwards completely disappeared.

Other cases of embolus with gangrene of the extremities are recorded by Dr. Goodfellow ('Med.-Chir. Trans.,' xlv, 367), Dr. Stoffella ('Wien. Med. Halle,' 1862, pp. 373, 384), M. Richet ('Gaz. d. Hôp.,' 1862, p. 206), Dr. Rosenthal ('Wien. Med. Halle,' 1862, pp. 205, 213), and Mr. P. Hewett (clinical lecture, 'Brit. Med. Journ.,' 1862, i, 354).

M. Velpeau reports a case of simple fracture of the leg, terminating in sudden death after three weeks, from an embolus blocking the pulmonary artery ('Arch. Gén.,' 1862, i, 752).

VEINS.

Mr. Wood describes a new operation for the radical cure of varicose veins ('Med. Tim. and Gaz.,' 1861, ii, 377). Mr. J. Adams gave a clinical lecture on a case of wound of the internal jugular; the bleeding was arrested by pressure, and the patient had no unfavorable symptoms up to the 30th, the accident having occurred on the 9th (ib., 1862, ii, 125).

TRANSFUSION OF BLOOD.

Professor Nussbaum, after some interesting historical remarks, states that this operation has been abandoned, not so much owing to want of success, as on account of the difficulties and dangers connected with its performance. The latter are, however, now much less to be feared than they were formerly; the operation has been rendered easier by more simple apparatus, and the physiological fact, for which we are indebted to Bischoff, that defibrinised blood has the same restorative action as that containing fibrine, renders it far less dangerous. Professor Nussbaum has invented a peculiar syringe, which he used with excellent effect in the following case. A young man, æt. 19, had extensive disease of the knee-joint; as the leg and foot were quite healthy, resection was performed, but with the worst effect. A few days later he was so much exhausted that death appeared imminent: the radial pulse could no longer be felt, and the extremities were quite cold. Under these circumstances, amputation was not admissible, and transfusion appeared the only means of saving life. Professor Nussbaum used for this operation a strong glass syringe, with a silver nozzle, and furnished with a piston formed of champagne cork and kid-leather; an elastic canula was attached to it, which much facilitated the operation; the glass allowed any bubbles of air to be seen, and no oil was required. About a pound of blood was obtained by venesection; it was at once beaten up, and this part of the process lasted about eight minutes; it was then filtered through fine linen, and put into a glass in a basin of hot water, until it was of the heat of 32°. A bandage, as for bleeding, was then applied to the left arm of the patient, the cephalic vein was laid bare by an incision two centimètres (eight tenths of an inch) long, and embraced by a strong double silk ligature. With one of the two threads, the peripheral end of the vein was tied, but not tightly, whilst by the other, the central end of the vessel was raised, so that it formed an angle at this part, and a small quantity of blood was confined in its canal. A transverse semilunar incision in the vein was then made by means of forceps and scissors, and the elastic canula attached to the syringe was introduced; the greatest care was used to prevent the passage of air. The canula and vein were then firmly tied together by the upper ligature, the bandage was removed, and the blood slowly injected. The syringe held only two ounces, and it was therefore necessary to remove it from the canula several times and cautiously refill it; the latter remained upright in the vein during the whole operation, and constantly contained blood, which did not enter the vein, except when forced by the syringe. To be quite certain that the canula was perfectly full, he poured into it to repletion distilled water, each time before he connected it with the syringe. After the whole of the blood had been injected, he removed, first, the peripheral, and then the central ligature and canula. The wound in the integument was then closed by three sutures, and an ordinary bandage, as after venesection, put on. In this way, not only the entrance of air, but also of coagula of fibrine into the vein, are prevented, and the vessel itself so little injured that inflammation could scarcely be feared. During the operation, the patient perceived a sensation of pleasant warmth; and after some time the pulse could again be felt, and the extremities regained their normal temperature. The patient's life was thus saved, and amputation of the thigh was, at a later period, successfully performed. The ease with which transfusion may now be performed, and its wonderful and instantaneous results, should encourage us to resort to it without hesitation, not only in cases of acute anæmia, but also in chronic, exhaustion-causing diseases. The dangers of the operation are the injection of air or coagula, and the excitement of phlebitis ('Baier. Int. Bl.,' No. 9, 1862; and 'Med.-Chir. Rundsch.,' 1862, ii, 204).

A case is recorded (J. Dreessen, 'Diss. on Transf.,' Kiel, C. F. Mohr, 1861), in which Professor Esmarch injected into the femoral vein fourteen ounces of defibrinated calf's blood after an amputation at the hip: the effect was very transient. A successful case of transfusion occurred in the practice of Dr. Weickert ('Deuts. Klin.,' 1862, p. 230).

HÆMORRHAGE.

Mr. Wells has written on acupressure ('Med. Tim. and Gaz.,' 1862, i, 303); M. Géry on the bad effects of the perchloride of iron ('Gaz. Hebd.,' 1862, p. 105); and M. Demarquay on the method of stopping serious bleeding in periarticular wounds ('Gaz. d. Hôp.,' 1861, p. 461).

Mr. Lister in writing on amputation of the hip-joint, says (Holmes's 'Surgery,' iii, 90), "should tumour of the bone render transfixion impossible, it will, I believe, be found advantageous to adopt an expedient lately suggested to me by a very interesting case related by an American surgeon (whose name I regret being unable to give), who disarticulated at the hip-joint, after dissecting up the soft parts from a large fibro-cartilaginous mass, with very trifling hæmorrhage, having the aorta compressed by an assistant; and the patient made a good recovery. For the purpose of compressing the aorta with precision and efficacy, I have had a large horseshoe clamp constructed, with one end expanded, and covered with soft material for application to the back, while the other end receives a screw, which presses down an appropriate pad. This being gradually screwed down, at a point a little above and to the left of the umbilicus, I find that the pulsation in both femoral arteries can be completely abolished, without any serious uneasiness or unpleasant consequence." This instrument has been used on three occasions, in Mr. Syme's case of iliac aneurism, in an amputation at the hip-joint by Mr. Spence, and in another of the thigh; in all it completely prevented the slightest flow of blood ('Edin. Med. Journ.,' viii, 431).

NÆVUS (TELANGIECTASIS).

Professor Porta has published a monograph on this subject; its basis is formed of 101 cases observed by him (noticed in 'Gaz. d. Hôp.,' 1861, p. 539). Professor Zeissl believes, that, as the rule, both vascular patches and collections of pigment depend on the tendency of children to resemble their parents. He has generally found on the father or mother vascular nævi, though occasionally of very small size ('Wochenb. d. Zeits. d. k. k. Ges.,' 1862, p. 65). M. Demarquay has some remarks on erectile tumours in muscle ('Un. Méd.;' and 'Brit. Med. Journ.,' 1862, i, 201); two forms occur, one without, and one with a cyst; in the former, they have an unlimited power of spreading; in the latter, they do not pass beyond their original limits; the prognosis and treatment almost entirely depend on the form.

Mr. Gay excised a nævus in the following manner:—He first passed a harelip needle through the skin, below the base of the nævus, so that the ends emerged one eighth of an inch on each side beyond the extreme edge of the growth. He then removed the whole of the nævus by two semilunar incisions close to its margin, and instantly brought the sides of the wound together by means of a figure of 8 ligature over the needle, as in harelip. As the needle arrested only the bleeding in its immediate neighbourhood, it was necessary to insert two more, one on either side of the first, and to close the wound by ligatures as before. This *completely* stopped the hæmorrhage; lint soaked in cold water was applied. A very few drops of blood were lost, the needles were taken away on the fourth day, and the child presented at the hospital a week after the operation with simply a linear mark indicating the seat of operation. The wound had perfectly healed ('Lancet,' 1861, ii, 568).

Dr. Heyfelder also recommends excision ('Deuts. Klin.,' 1862, p. 95). A case of nævus of the scrotum, supposed to extend to the urethra, is recorded in the 'Lancet' (1862, i, 688). W. Roser has found cotton threads wet with the Liq. Ferr. Sesquichlor., used in the manner of setons, very useful in some cases which were unsuited for excision ('Arch. d. Heilk.,' 1862, p. 90).

Mr. Clark generally prefers the following treatment in subcutaneous nævus ('Med. Tim. and Gaz.,' 1862, i, 76); a caustic probe is prepared by melting some nitrate of silver in a watch-glass, and coating the extremity of a fine probe with it. The healthy skin is perforated at least half an inch from the margin of the swelling, by a broad lance-shaped needle; by repeated thrusts, radiating in different directions, the diseased growth is freely cut up. Immediately after removing the needle, the caustic probe is introduced along the same track, and by moving its point about, the caustic is dissolved in the interior of the tumour. The advantages of this method are,—that the caustic acts only on the diseased texture, whereas an irritant injection will often diffuse itself into the healthy areolar tissue; there is no destruction of skin; and the track of the needle being cauterized, there is no risk of bleeding. Moreover a track is secured for the pus which subsequently forms; the disease is cured by this inflammatory destruction of its texture. A large subcutaneous nævus may be treated in this way in segments. In some cases it may be well to combine different methods of treatment, thus in a case where the lower eyelid was involved both superficially and subcutaneously, both nitric acid and the caustic probe were used effectually, without being followed by any ectropium. When the caustic probe is employed, suppuration should be encouraged by water dressing or a bread poultice. The swelling is slow in subsiding, but the cure is manifested by the altered density of the texture, the loss of any blue tinge the skin may have presented, and the absence of any change in size whenever the child cries.

TUMOURS.

Mr. Moore.—On the value of pulsation in the diagnosis of tumours ('Lancet,' 1862, i, 453, 536). The author gives a number of cases, with remarks, of tumours that pulsate, but are not aneurisms, and of tumours that do not pulsate, yet are aneurisms: among others the following,—a man was in St. Bartholomew's Hospital with an unmistakeable popliteal aneurism. One morning the whole knee and adjoining halves of the thigh and leg quickly became greatly swollen and very tense, the foot livid and cold, the pain much increased, and the pulsation entirely gone. Within six hours from the time at which this change in the condition of the limb had commenced, Mr. Lawrence tied the femoral artery, and the man got well.

Dr. Wilks.—Lecture on tumours ('Med. Tim. and Gaz.,' 1862, ii, 83, 193). The great difference between physiological and pathological formation appears to be, that nearly all new growths are of the simplest composition, not putting on the form of the complex organs, near which they may be placed, but consisting principally of cells and fibres. Three kinds of growths may be distinguished, the malignant, the semi-malignant, and the innocent, and are characterised by the various degrees of development and of admixture of cells and fibres; just in proportion, as the active parts of the cell, the nuclei, are alone produced, so is the growth eminently malignant, and disposed to propagate; and just also in proportion as the growth is prone to fibrillate, so is it disposed to be innocent. Nothing in the body could be imagined more of a malignant nature than this—an objectless cell-growth. This would be true, did the cell have no particular features of its own, but resemble the simple embryonic cell, from which the tissues spring. Dr. Wilks thinks that this is the case, and that the so-called cancer-cell is no more than an embryonic cell. The malignancy appears to diminish, in proportion as the cells become more fully developed. The active principle of growth lying in the nucleus, it is clear that the more the tumour is composed of nuclei, the more malignant is its nature, and the better formed the cell-wall, so is the growth less malignant, and so on according to the further development of the cell-wall. An angular or caudate cell shows a slower growth, and that the tumour has a more healthy tendency; should the cell develop still further and become pointed at each end, it would show that the tumour, of which it was the constituent element, was of a still less malignant character. Next are the cases where more of the fibrous element exists, and the tumour is consequently less malignant; such are the fibro-nucleated, which often return after removal; also, varieties of this, as the collonema or gelatinous sarcoma, composed of long delicate tendril-like filaments with oval nuclei, and which also are sometimes recurrent—these may be called soft recurrent, while those previously mentioned are firm recurrent tumours. The growths composed of simple fibre like that of areolar tissue are innocent.

It appears, as already mentioned, that the complex structures cannot be reproduced; but if a tumour should spring up in contact with some of the less complex parts, then we find it modified according to the nature of these parts. Thus we find that a growth on the skin may be composed of epithelium, and others near the mammary or labial glands consist of glandular tissue. Thus in bone we have ossifying cancer; ossifying recurrent fibroids, or osteosarcoma. The simple fibrous tumour of bone would, of course, be replaced by an exostosis or enchondroma, both of them innocent tumours; or in the medullary cavity of the shaft by a myeloid. This name, given by Mr. Paget, is distinctive, and points not only to its nature but its outward aspect; for growing from a centre in the middle of the bone, it assumes a rounded form very characteristic of the disease. It may, of course, be associated with other elements, when a tumour involves a large part of the shaft, but then, of course, it is not entitled to its own name alone; in its simple form it may be called an innocent growth, and in all the recorded cases this has been its character. In one case, however, it returned after removal, and subsequently tumours of a similar nature sprang up in the lungs; a case clearly proving that a tumour which under ordinary circumstances is loath to contaminate the system, may do so under the favouring influence of a long period of time. Another example is the female breast; cancer and semi-malignant growths, as recurrent fibroid, may occur here as elsewhere, but the simple tumour is replaced by the adenocele, a tumour composed of imperfect mammary tissue. An interesting and important point to observe is, that occasionally, together with the mammary tissue, the fibre is of the recurrent fibroid variety, and thus a tumour which may be styled simply adenocele, may return in virtue of the other element which it contains, or be developed probably as a secondary growth in the lungs. No case has yet been recorded where the mammary elements have been propagated in distant parts. In the uterus and prostate, the simple muscular tissues are reproduced, and the so-called fibrous tumour of these organs is really a muscular one. As regards melanosis, I may say that every fresh example of the disease which I witness confirms the opinion which I have always held,—that this is a disease which always takes its rise in a part of the body where pigment previously existed,—and thus we find it springing up on a mole or mother's mark; at other times having its origin in the choroid coat of the eye. In most of the cases which I have seen, this has clearly been the case, and the disease has been simply a mixture of pigment with the constituents of tumours already mentioned. Thus an innocent fibrous tumour may contain pigment; a recurrent fibroid may be also melanotic; and of this I have a capital example where a tumour sprang up on a mole and returned several times after removal. In most cases it is associated with a cell-growth or cancer, and thus the melanosis is rather a melanoid cancer,—a mixture of cells and pigment. The pigment is generally composed of roundish brown bodies of about the size of the cancer-cells, and is in itself a substance of easy diffusion through the body; so that I suppose there are few diseases which affect so many parts of the body or are so malignant as melanosis. Whether a tumour may consist wholly of pigment and spread through the body simply as pigment, is a case which I much wish to witness. This would be an instance of simple melanosis, and one which I see no reason why it might not occur.

Warty and villous growths must be regarded as having no necessary distinctive qualities of their own, the characters which these names imply being non-essential and dependent only on the fact of their growing on a free surface. Thus a warty exterior may exist on a cancerous tumour as well as on a perfectly innocent structure; so also a villous growth, formerly called cancer, and now styled innocent, may be either the one or the other, according to the basis from which it springs. Thus in the bladder we sometimes meet with small vascular tufts growing from the mucous membrane, leading to death from hæmorrhage, and on the other hand, similar villi constituting the surface of a cancer. In the stomach and intestines such villous cancers are exhibited. The so-called cauliflower excrescence of the uterus is a villous cancer.

As to the local or constitutional origin of tumours, the tendency of recent research has been to confirm the former; in some cases, such as the secondary bony or melanotic tumours of glands or the lung, the local origin is clear; in other cases, such as cancer, the same origin is supported by strong arguments.

The following are worth quotation:—Case of a horn growing from the hand ('Edin. Med. Journ.,' vii, 903): Mr. Cock on deep-seated tumours of the thigh ('Med. Tim. and Gaz.,' 1862, i, 237): Mr. Hewett on fibrous tumours of the scalp ('Med. Tim. and Gaz.,' 1862, i, 315): Mr. Cooper, removal of a tumour of the parotid, &c. ('Amer. Med. Tim.,' 1862, i, 330): M. Dolbeau on cysts formed by dilated excretory canals ('Gaz. Hebd.,' 1862, p. 292): M. Broca, case of 2080 lipomata ('Gaz. Hebd.,' 1862, p. 366): E. Kollett, rare case of cancer ('Wien. M. Wchns.,' 1862, pp. 355, 371): Mr. Baker on the statistics of cancer ('Med.-Chir. Trans.,' xlv, 389).

BONES.

During the last few years, Paul and others have strongly recommended the use of the needle as a means of diagnosis in osseous affections. Dr. Küchler now says ('Deuts. Klin.,' 1862, p. 359), "It is generally of great importance, more especially for the purpose of obtaining satisfactory indications for the performance of serious operations, such as forcible extension, excision, &c., &c., that we should make out, with the greatest exactness and freedom from doubt, the organic condition of the bones and joints,—otherwise many limbs and lives must be unnecessarily sacrificed. I am, therefore, in the habit, before almost every amputation, resection, or similar operation, of placing the patient on the operating table, and chloroforming him, not with the design of immediately operating, but for the purpose of a thorough examination. In the latter, I principally employ incisions and the use of the finger; if I find the indications confirmed, I immediately proceed to the operation, for which every preparation has been made. We possess, as far as I know, no perfectly reliable, external symptom of the degree of porosis and fatty degeneration, &c., of the bones, and accordingly many cases are treated for months, after resolution of the morbid process has become impossible. In such cases the simple means of diagnosis, of which I make use, is the introduction of a small tenotomy knife, of an acupuncture or cataract needle, directly into the osseous tissue. Healthy bone does not allow any penetration, but it can scarcely be believed, with what ease the knife often sinks into the diseased tissue, even in cases where there had been little reason for suspecting any organic change. I believe, that by practice, not only the degree of solidity of the bone, but also many qualitative changes and degenerations, may be made out in this simple and innocent manner."

Dr. Lorinser has issued a series of papers on inflammation of bone ('Wien. Wchns.,' 1862, pp. 401, 417, &c.), which among other matters contain (p. 629) an account of researches on the chemical constitution of the urine, pus, and bone-tissue in these cases.

Professor Linhart records three cases of abscess in the medullary canal of tubular bones ('Wien. Med. Halle,' 1862, pp. 183, 195, 211). Mr. Cooper publishes a case of recovery, from scooping a portion of the tibia, for disease of twenty-four years' standing ('Amer. Med. Times,' 1862, i, 347). A case of necrosis of the scapula is to be found in the 'Gaz. Hebd.' (1862, p. 109, from the 'Medical and Surgical Reporter,' Philad.); another of extensive death of the femur is reported by Mr. Butcher, in the 'Dub. Quart. Journ.' (xxxiii, 14). A case in which there were sixty-five exostoses is published by Dr. Ebert ('Deuts. Klin.,' 1862, p. 91), and another under Mr. Barwell, in which there were thirty-eight, in the 'Lancet,' (1861, ii, 446.) Professor Schuh has published a case in which a cavernous tumour occurred in the metacarpal bone of the little finger ('Wien. Med. Halle,' 1862, p. 107). Dr. Duncan has published in a separate form (from the 'Edin. Med. Journ.') his translation of Litzmann 'On Osteomalacia' (Edinburgh, Oliver and Boyd): we note also—W. C. M'Intosh, mollities ossium in insanity ('Edin. Med. Journ.,' viii, 139), and R. Barnes, case of osteomalacia ('Med.-Chir. Trans.,' xlv, 63). Finally, Mr. Humphry has published a paper on the influence of paralysis, disease of the joints, disease of the epiphysial lines, excision of the knee, rickets, and some other morbid conditions, upon the growth of the bones ('Med.-Chir. Trans.,' xlv, 283).

FRACTURES.

The first or general portion of Gurlt's treatise (Berlin, Hirschwald) has been concluded. Dr. Little describes a simple method of applying plaster of Paris splints ('Amer. Med. Times,' 1861, ii, 367) which he exemplifies by its mode of application to the leg, as follows:—the limb is first shaven or slightly oiled; a piece of old, coarse, washed muslin is next selected of such a size that when folded about four thicknesses it is wide enough to envelope more than half of the circumference of the limb, and long enough to extend from a little below the under surface of the knee to about five inches below the heel. The solution of plaster is then to be prepared. Fine, well-dried, white plaster had better be selected, and before using, a small portion should be mixed with water in a spoon and allowed "to set," with a view of ascertaining the length of time requisite for that process. If it is over five minutes, a small quantity of common salt had better be dissolved in the water before adding the plaster. The more salt added, the sooner will the plaster "set." If delay be necessary, the addition of a few drops of carpenter's glue or mucilage will subserve that end. Equal parts of water and plaster are the best proportion. The plaster is sprinkled in the water and gradually mixed with it. The cloth, unfolded, is then immersed in the solution, and well saturated; it is then to be quickly folded as before arranged and laid on a flat surface, such as a board or a table, and smoothed once or twice with the hand in order to remove any irregularities of its surface, and then, with the help of an assistant, applied to the posterior surface of the limb. The portion extending below the heel is turned up on the sole of the foot, and the sides folded over the dorsum, and a fold made at the ankle on either side, and a roller bandage applied pretty firmly over all. The limb is then to be held in a proper position (extension being made, if necessary, by the surgeon), until the plaster becomes hard. The time required in preparing the cloth, mixing the plaster, and applying the casing to the limb, need not be more than fifteen minutes. After the plaster is firm, and the bandage removed, we have a solid plaster of Paris case partially enveloping the limb, leaving a portion of its anterior surface exposed to view. If any swelling occurs, evaporating lotions can be applied to the exposed surface, and we can always easily determine the relation of the fractured ends. If necessary, an anterior splint, made of the same material, can be applied, and then both bound together with adhesive plaster, and if desirable a roller bandage over all. If the anterior splint is not used, two or three strips of adhesive plaster, one inch wide, or bands of any kind, may be applied around the casing, and will serve to keep it firmly adjusted to the limb. Thus applied, we have a most beautiful splint, partially enveloping the limb, making equal pressure, light, and allowing the patient to change his position in bed, or to sit up in a chair, or go about on crutches. To other fractures it may be applied in a similar manner: twelve cases are related in proof of its value.

W. Roser recommends a starch-gypsum bandage ('Arch. d. Heilk.,' 1862, p. 87); according to him the starch bandage has the advantage of being very durable, the gypsum that of immediate firmness; both advantages are obtained by placing a gypsum bandage over the ordinary one with starch; after a couple of days the starch has become hard and the gypsum covering may be removed. This method has been found very useful in the Marburg Clinic, in cases of talipes, diseased joints, and fractures. Professor Szymanowski writes at length on the gypsum bandage ('Arch. d. Heilk.,' 1862, pp. 339, 395). In many cases it has been found difficult to remove these bandages. M. Klever has found that the application of Acid. Mur. sufficiently diluted to have no action on the skin, renders them so soft, that they may be cut with a penknife or old pair of scissors. The patient may himself apply the fluid along the bandage, over the breadth of two or three fingers; in eight or ten minutes it will be ready for division. The Acid. Mur. dil. may be formed by equal parts of water and acid, or may contain one part of acid to two of water. A species of hinge may be readily formed in any part of the bandage by softening it along one line with this fluid, and then by dividing it in the necessary manner, valvular openings may be formed. The gypsum bandage should be prepared by soaking it in a mixture of gypsum and water, and not by rubbing in dry plaster; when made in the former manner, it remains firm when exposed to continued immersion in warm water.

Dr. Markoe had recourse to the following means in a case of fractured femur ('Amer. Med. Times,' 1862, ii, 163);—instead of using a perineal strap, he had recourse to a broad plaster of Canton flannel adhesive strap, fitted to the lower part of the back and covering the buttocks; to this were attached three counter-extending straps, which were fastened to the head of the bed; this was at first intended as a temporary expedient, but it answered the purpose so well that it was continued.

We must also quote a case of amputation for ununited fracture of the leg, under Mr. Coote ('Lancet,' 1862, i, 664): J. Glück on gypsum bandages ('Amer. Med. Tim.,' 1862, i, 268, 281, 295): Dr. Althaus, case of paralysis after fracture treated by Faradisation ('Brit. Med. Jour.,' 1862, p. 72): Dr. Küchler, case of refracture of a badly united fracture of the neck of the femur ('Deuts. Klin.,' 1862, p. 319): a case of compound fracture of the femur, treated by the starch bandage, under Mr. Wells ('Lancet,' 1861, p. 524): case of fracture of the sternum ('Med. Times and Gaz.,' 1861, ii, 375): case of simple fracture of the scaphoid bone of the carpus ('Lond. Med. Rev.,' ii, 276): three cases of fracture of the scapula ('Amer. Med. Tim.,' 1862, i, 39): Dr. Gordon on the treatment of fracture of the lower extremity of the radius (reviewed in the 'Dub. Quart. Journ.,' xxxiii, 127): paper by Dr. Smith on the relation of the insertion of the capsule of the hip-joint to intracapsular fracture, &c. ('Amer. Med. Tim.,' 1861, ii, 389, 405; 1862, i, 54, 138, 152, 168): Mr. De Morgan on Malgaigne's hooks for fractured patella ('Brit. Med. Journ.,' 1862, i, 543): cases of separation of epiphyses ('Trans. Path. Soc. Lond.,' xiii, 182, 186): Dr. Vedder, new apparatus ('Amer. Med. Tim.,' 1862, i, 254): Dr. Skipton, new splint for compound fractures ('Army Med. Rep.' for 1860, p. 459): Mr. Coxeter, hydrostatic perineal belt for fracture of the femur ('Med. Tim. and Gaz.,' 1862, i, 566).

JOINTS.

Dr. L. Dittel, on secondary or pathological dislocation of the hip-joint ('Oesterr. Zeitsch.,' vii, 25, 26).—When the joint has become relaxed through disease, when the tissues holding the bones in contact have lost their firmness, elasticity, and contractility, when the ordinary conditions of pressure by the air and blood have become modified, no external force is required to drive the head of the femur out of its socket,—normal motions, and especially adduction and rotation inwards, are quite competent to produce the dislocation. Any disease, such as enchondroma, cancer of the ilium or of the head of the femur, may relax the parts through which the bones are connected together, and may thus be the essential condition of the luxation; by far the most common cause is, however, inflammation of the joint, the so-called coxitis. Secondary luxation may occur at any stage of the latter disease.

In the first stage of hip-joint disease, all the tissues become saturated with exudation, and thus lose entirely, or at all events partially, their firmness, elasticity, and power of contraction. The cartilage on the acetabulum and femur becomes opaque, inelastic, and soft; its cells change at last into connective-tissue-corpuscles; the cotyloid ligament is transformed into a yielding, loosely connected, fibrous band; the round ligament is reduced to a thread-like remainder, liable to rupture on the least force, or is entirely destroyed; the capsule loses its firmness and power of resistance, and owing to the large amount of exudation becomes expanded to a surprising size. The surrounding muscles contract with increased power, and press the articular surfaces together, in the direction of their force, so long as their parenchyma is not saturated with exudation; when, however, they become infiltrated, they loose all power, and no longer serve as bonds of union. Another point of some importance is the posture; the ordinary one is that on the back, the leg flexed on the thigh and the latter on the abdomen, with rotation outwards and abduction; the back of the head of the femur not only rests, but is pressed against the posterior rim of the acetabulum by the action of the gluteal muscles, and the bones gradually wear away at the point of pressure. This wearing-away of the bone-tissue is always found, to a greater or less extent, in cases of dislocation. If a cure takes place during this first stage of the disease, the swollen parts necessarily shrink, the infiltrated tissues diminish in size, and the articular surfaces no longer fit one another. The greater the changes that have already occurred, the greater will be the liability to dislocation. Were the head of the femur to be kept at perfect rest in the first stage of hip-disease, it could only be displaced by an enormous growth of granulations, an event that can only be of the rarest occurrence: fluid exudation alone would not cause dislocation, owing to the great expansibility of the capsular ligament. The patient, however, does not lie at perfect rest, and when the extremity is rotated inwards, either by active force or passively, the head readily slips out of the joint and is drawn upwards and backwards by the gluteal muscles. When inflammation spreads to the bones, or when the disease commences as osteitis, the bones become softened and changed in shape. During the inflammatory stage the bones are pressed together; and thus the acetabulum becomes larger, the head of the femur smaller; the margin of the acetabulum becomes rounded off, its fundus raised by ossifying granulations; the result is that a little head is applied to a large and shallow socket. In such a case, even slight adduction or rotation inwards of the thigh will throw the head backwards and upwards. If the inflammation passes further into caries, the bones become still more worn away and the head of the femur often entirely disappears. The pathological luxation may thus occur in the stage of exudation, in that of wearing-away (*usure*) of the bone, and in that of caries; it is anatomically characterised by the intra-capsular position of the head of the femur. In the first stage the capsula becomes so wide as to allow displacement of the head, without perforation; in that of wearing away the capsula is itself moved backwards, and in the third stage the head is still within the capsula. The head of the femur is displaced backwards and upwards, through pressure, wearing away of the bone and muscular contraction.

The differences between the traumatic and the pathological dislocation of the hip-joint are many and important; the former is caused by external violence, the latter by functional or gentle passive motion; in the former the joint is perfectly healthy, in the latter always diseased; in the former the ligamentum teres is always ruptured, in the latter occasionally not; in the former the capsular ligament is perforated, in the latter not;

or in other words, the head of the femur becomes extracapsular in the one, remains intracapsular in the other.

The stage of hip-disease, at which the luxation takes place, is of importance in regard to the prognosis and treatment. In the first stage the condition of the joint most resembles that of health; the dislocation presents some, and occasionally great, difficulty in reduction; on the other hand, it is less liable to recur. In the second and still more the third stage, the bone slips readily in, but also just as easily out. Occasionally there are difficulties in reduction, such as from retraction of the glutæus medius and maximus, or from osteophytes. Reduction should not be undertaken, when there is still an inflammatory condition, when the head of the bone or acetabulum is sensitive, when the muscles are firmly retracted, or when there is too great an amount of caries. In the reduction, the patient is placed on his back and chloroformed; the pelvis is fixed by an assistant, and the operator flexes, abducts, and rotates the femur outwards in the same way, as when a traumatic dislocation is reduced by the hand. After reduction the joint must be kept for weeks or even months at perfect rest. Prof. Dittel has followed this plan of treatment in two cases.

Mr. Hilton has in three cases reduced pathological dislocations of the hip ('Lancet,' 1861, ii, 587, and 1862, ii, 2): in all three, anchylosis took place after reduction. Prof. v. Dumreicher has in two cases of pathological dislocation of the hip excised the joint ('Canstatt,' 1861, v, 254).

M. Trousseau in a clinical lecture on chronic rheumatic arthritis ('Gaz. d. Hôp.,' 1861, p. 565, and in abstract in the 'Lancet,' 1861, ii, 559) states that he has found the tincture of iodine, in large doses, and continued for months, or even years, of great service.

On loose cartilages: Mr. Square ('Lond. Med. Rev.,' ii, 162; 'Brit. Med. Journ.,' 1862, i, 539, 570): Mr. Syme ('Brit. Med. Journ.,' 1862, i, 191).

On Anchylosis: Prof. Nussbaum (pamphlet, München, 1862): Dr. Kade ('St. Petersb. Med. Ztsch.,' ii, 1, 33): Mr. Brodhurst ('Lancet,' 1862, i, 326): Dr. Berend, case of osteotomy in bony anchylosis of ankle (Schmidt's 'Jahrb.,' cxiii, 84), and another case in the same affection of the hip ('Deuts. Klin.,' 1862, 182): M. Péan on disease of the shoulder-joint (Paris, 1860, reviewed in 'Canstatt,' 1861, iii, 127).

On Disease of the sacro-iliac joint: M. Velpeau ('Gaz. d. Hôp.' 1862, p. 105).

On disease of the hip-joint: E. Krackowizer ('Amer. Med. Times,' 1862, i, 301): Dr. Freud ('Wien. Med. Halle,' 1862, pp. 6, 19, 30): Nélaton, clinical lectures ('Gaz. d. Hôp.,' 1862, pp. 330, 317): Dr. Bartscher ('Journ. f. Kinderk.,' xxxvii, 51): Dr. Volkmann, an instrument for measuring deviations ('Arch. f. Klin. Chir.,' ii, 572): E. Cutter on the American method of extending in hip disease ('Brit. Med. Journ.,' 1862, ii, 196): Mr. Hugman on extension by weights ('Lancet,' 1862, ii, 170): Dr. Vedder, new extension splint ('Amer. Med. Times,' 1862, i, 23).

M. Nélaton, clinical lecture on a case of knee disease ('Gaz. d. Hôp.,' 1862, p. 14).

DISLOCATIONS.

Prof. Schinzinger ('Prag. Viertelj.,' 1862, ii, 144) lays down the principle, that in compound luxation of the ankle the portion of bone projecting through the wound should be at once excised. R. Schill, æt. 28 years, fell, on the 6th of October, 1860, from a waggon, the inner side of the foot striking the ground. Dr. Hasenohr found a compound dislocation of the tibia inwards with fracture of the fibula, and at once excised the internal malleolus; he then united the skin-wound, and applied the ordinary apparatus; ice was locally employed for five days, and morphia administered internally. In the tenth week the patient could be raised, and five months after the accident he could walk for an hour by means of a stick, and up and down at home without any assistance. In September, 1861, the patient saw Dr. Schinzinger; it was then found that the ankle-joint possessed slight mobility, there was no depression at the inner side, but the whole leg was four centimetres shorter than the other. This shortening was caused by the upper fragment of the fibula being pushed along the inner side of the lower fragment; the upper fragment of the fibula and the extremity of the tibia rested at the same level on the astragalus, to which they appeared to be united by fibrous tissue. The end of the lower fragment of the fibula could be distinctly felt under the skin four centimetres above the external malleolus. Prof. Schinzinger recommended a closely fitting boot with a high heel. The portion of the tibia after removal measured five centimetres.

A case of compound dislocation is reported ('Edin. Med. Journ.,' vii, 813), in which Mr. Syme removed the projecting portion of bone; about five weeks later, death occurred from pyæmia. In the remarks appended to the case, it is stated that "the severe, and occasionally fatal, constitutional disturbance, which follows compound dislocation of the ankle-joint, makes the treatment of these injuries of the greatest practical importance. One cause for these grave symptoms appears to be, the tension of the parts; and for this reason there is no doubt that a free removal of the projecting bone is the only treatment which ought to be adopted if an attempt be made to save the limb. But it has been found that, when the bone is not interfered with, or even sometimes after it has been freely taken away, as in this case, that serious and even fatal results have happened from the accident; and it therefore becomes a serious question, whether amputation at the ankle-joint would not be the preferable treatment. Amputation at the ankle-joint has the great advantage of being a safe operation, and causing comparatively little constitutional irritation; and certainly a good ankle-joint stump would hardly be inferior to a foot which must be stiff at the ankle. As it is our duty to save even a small portion of a limb, if we can do so without endangering life, I think it would only be right to attempt preservation of the foot, provided the nature of the injury and the patient's age and constitution were favorable for so doing. But, on the other hand, if the patient is aged, weak, or of an unhealthy constitution, there can be no doubt that a primary amputation at the ankle-joint is the only safe means of treatment."

Mr. Garraway, in a case of compound dislocation of the ankle, removed an inch of bone by the saw, with the following brilliant result, which he thus describes: "Fifteen months have now elapsed since the day of the accident; she walks with scarcely any perceptible lameness; the motions of the joint are as free as ever; the deformity is almost none; callus has apparently been thrown out to form an inner and an outer malleolus; and whether there is simply that ligamentous union between the tibia and astragalus which Sir Astley Cooper describes as the result of his experiment on a dog, or whether we have in this case, as I am almost disposed to believe, restored cartilages and a new synovial membrane, I leave to your superior judgment to determine." The patient was a girl of ten; Mr. Garraway appears inclined to recommend, that in irreducible compound dislocations of the ankle-joint, enough of the tibia and fibula should be removed, to prevent contact with the astragalus after reduction, thereby to avert anchylosis and ensure a movable joint ('Brit. Med. Journ.,' 1862, ii, 442).

Mr. Brodhurst on the reduction of old dislocations ('Lancet,' 1862, i, 665): Mr. Skey, case of dislocation of the coccyx ('Lancet,' 1861, ii, 326): cases of dislocation with fracture of the humerus ('Brit. Med. Journ.,' 1862, 1, 140, 488; 'Gaz. d. Hôp.,' 1862, 287): Professor Schinzinger on reduction of dislocation of the shoulder by forcible rotation of the arm outwards ('Prag. Viertelj.,' 1862, ii, 137): Mr. Rogers on Prof. N. R. Smith's mode of reducing dislocations of the humerus ('Amer. Med. Times,' 1861, ii, 302, 378): case of dislocation of humerus backwards ('Gaz. d. Hôp.,' 1862, p. 370): dissection of an old dislocation of the elbow ('Edin. Med. Journ.,' vii, 786): Mr. Edwards, cases of dislocation of the elbow ('Lond. Med. Rev.,' ii, 268): case of dislocation of elbow under Mr. Hilton ('Med. Times and Gaz.,' 1862, i, 560): case of compound dislocation of the wrist ('Edin. Med. Journ.,' viii, 242): Mr. Holthouse, a compound, incomplete, lateral dislocation of the terminal phalanx of the thumb inwards ('Trans. Path. Soc.,' xiii, 180): Guersent, two cases of traumatic dislocation of the hip in children ('Journ. f. Kinderkr.,' xxxvii, 111): J. Adams on a case of dislocation of the head of the thigh-bone into the obdurator foramen, reduced with the heel in the perinæum ('Lancet,' 1862, i, 455): J. C. Hutchison, case of dislocation of the femur into the ischiatic notch, reduction by manipulation, death from rupture of the bladder, dissection of the hip ('Amer. Med. Times,' 1862, 1, 233): Dr. Capelle, cases of dislocation of the hip in typhus (Schmidt's 'Jahrb.,' cxv, 199): M. Richet, case of fracture of the ilium with dislocation of the femur ('Gaz. Hebd.,' 1862, p. 366): Drs. Abel and Mehlhausen, two cases of complete dislocation of the knee-joint ('Preuss. Milit. Zeit.' and 'Med.-Chir. Runds.,' 1862, i, 133): Prof. Schinzinger, case of dislocation of the patella outwards ('Prag. Viertelj.,' 1862, ii, 142): cases of vertical or edgewise dislocation of the patella ('Med. Tim. and Gaz.,' 1862, i, 189, 264, 351): dislocation of the head of the fibula ('Dub. Quart. Journ.,' xxxiv, 231): M. Demarquay, dislocation of the foot forwards ('Mon. des Scien. Méd.,' and 'Brit. Med. Journ.,' 1862, i, 95).

EXCISIONS.

Dr. Danzel on resection of the wrist ('Arch. f. Klin. Chir.,' ii, 512).—

The object of this operation is to preserve, if possible, a useful hand, and with this design it is, of course, advisable to meddle as little as possible with the tendons. Dr. Danzel proposes a new method for this joint; it, however, strongly resembles that of Buchanan for the ankle. He first makes a straight incision over the styloid process of the radius, carrying it an inch above and an inch below; he then separates the supinator longus and extensors of the thumb, divides the radius with the chain saw and disarticulates; the ulna is now turned out of the same wound and divided; finally the carpal bones are removed, so far as may be necessary. Dr. Beck publishes the following case of excision of a piece of bone for anchylosis ('Arch. f. Klin. Chir.,' ii, 561): J. M—, aged twenty-two, wound of the left knee, followed by suppuration and anchylosis. Present state.—Knee flexed at almost a right angle; partial dislocation of the tibia backwards with rotation of the foot outwards; patella on the outer side of the condyle; not the least trace of mobility. Operation: a straight incision was carried across the middle of the knee down to the bone, at each end of which an incision, an inch in length, was made, so that the wound was in this form |———|. The flaps having been turned back, the bone was sawn nearly through, and the remainder broken by flexing the limb, with the view of avoiding all risk of wounding the popliteal. A second section with the saw separated a wedge of bone, which was in front an inch and a half wide, behind half an inch. The limb was now extended, and sutures applied; finally the patient was put to bed, and the extremity fixed in a kind of Macintyre's splint. Ice was locally applied till the eighth day, then cold and ultimately tepid water. With the exception of some trifling attacks of diarrhœa, the convalescence was uninterrupted; in the ninth week, he left his bed. The final result was, that although the limb was almost five lines shorter, he could use it just as well as the other, for standing or walking; the knee was quite fixed. This makes the fourteenth case, in which this operation has been performed; twelve were successful, two fatal. The author considers that the wedge of bone should be entirely formed by the femur, and that it is well not to place the limb in a too straight position, because for walking a very slightly flexed limb is better than one perfectly straight.

Dr. Bauer has published a case ('Arch. f. Klin. Chir.,' ii, 644), in which a knee deformed and useless from diastasis of the lower epiphysis of the femur was treated with good success by excision. The patient, fourteen years of age, presented himself to Dr. Bauer with a great deformity of the left knee, which had all the characters of a marked genu valgum; Dr. Bauer from the history and examination came to the conclusion, that there had been a diastasis of the epiphysis some seven years earlier, to which the deformity owed its origin. On the 9th October, 1860, excision was performed; the tibia and femur were united by strong iron wire; for the integument silver-wire sutures were employed. The iron wire was removed on the twenty-sixth day. At the end of the second month, he was able to stand. On the 28th February, 1861, he was shown to the Pathological Society of New York, when the result appeared very satisfactory: the shortening amounted to a little more than two inches; the joint was very slightly movable, he could walk readily and without pain, when unaided.

Dr. Mitscherlich has published a second paper on waterproof bandages (see the 'Year Book,' 1861, p. 236); among other cases to which these bandages were applied, there were a number of resections; thus in eight cases of excision of the elbow which were all performed by Langenbeck by means of a longitudinal incision over the inner third of the olecranon; in the after-treatment the elbow was placed at a right angle, the forearm between supination and pronation. Case 1, æt. 22 years, excision for true anchylosis on 14th February, 1861, steady convalescence, left the hospital after about seven weeks. Case 2, æt. 12, for caries and sinuses, excision on February 25th, 1861, next day a gypsum bandage, on the thirteenth day commencement of passive motion; ultimately the arm became in mobility and power as good as the healthy one. In the third case the bandage had to be removed. The fourth, fifth, sixth, and seventh were all successful, the eighth promised well. Two excisions of the knee were also bandaged in this way, with tolerable results; in one of the hip, death occurred from pyæmia on the fifteenth day; the bandage, however, had not been applied till the sixth day.

There is a report on excision of the elbow by M. Trélat ('Gaz. d. Hôp.,' 1862, pp. 231, 238): M. Nélaton on excision of the shoulder (ib., p. 134).

Cases of excision of the knee on account of deformity ('Med. Tim. and Gaz.,' 1862, ii, 34, 276; 'Lancet,' 1862, i, 406): excision of the shoulder in a very young child ('Lancet,' 1862, ii, 285): Prof. Szymanowski on resection of the finger-bones ('Canstatt,' 1861, v, 251).

AMPUTATIONS.

Dr. E. Blasius recommends in certain cases an amputation of the foot a little nearer the heel than that of Chopart, the anterior half inch or so of the astragalus, and os calcis being sawn off: such an operation he calls a talo-calcanean amputation ('Arch. f. Klin. Chir.,' ii, 521). Such a method is indicated on two principal occasions; when the soft parts are too far destroyed to allow the performance of the ordinary Chopart; and secondly when the anterior parts of the astragalus and os calcis are diseased. Disease of Chopart's joint, as Blasius expressively calls it, is generally confounded in the more general denomination of caries of the tarsus: sometimes, however, the disease is primarily a chronic inflammation of the synovial membrane, limited in character, and the bones only suffer to a very slight extent; not unfrequently, of course, the tarsal and tarso-metatarsal joints are affected with the same disease. It is essential in the diagnosis to determine that the posterior portions of the os calcis and astragalus are healthy, that the ankle and calcaneo-astragaloid articulations are sound: conclusions which may be deduced from a careful study of the history of the case, from the position of the specially painful spots, from absence of pain on pressure of the os calcis or astragalus, when the heel is pushed towards the leg, or when the person stands up, and finally by means of the probe and dilatation of the fistulæ, if necessary, with the knife.

The author does not agree with the statement, that the results of Chopart's amputation are unsatisfactory: including seven cases of the talo-calcanean modification, he has had nineteen in all, and has found the patients well able to stand and walk; the heel was generally elevated to the extent of a quarter of an inch or so, an amount not sufficient to have any injurious effect. The statement of Szymanowski that the ankle-joint becomes anchylosed after Chopart's amputation, is, according to Blasius, not correct. The great advantage of this operation over Pirogoff's is that the limb remains of its natural length.

Professor Szymanowski ('Prag. Viertelj.,' and Canstatt's 'Jahresb.,' 1861, v, 260) has collected the cases of amputation performed at the Clinic of Dorpat since 1812, with the view of determining the length of time required for the healing of the wound. The total number of amputations was 110, and the per-centage of mortality was 22·93. The average period required for healing was,—(1) for amputation of the thigh, fifteen weeks (3¾ months); the shortest was four, the longest twenty-one weeks: in eleven cases the wound was only twice healed before the twelfth week. (2) In thirty-three cases of amputation of the leg, ten weeks (2½ months). The variation was from three to twenty-four weeks; usually, however, recovery took place before the tenth week. (3) In removal of the arm, seven weeks (1¾ month): the shortest two, the longest fourteen weeks. (4) In the forearm, ten weeks (2½ months); the deviation in the few cases was from four to twenty-five weeks. (5) In the foot, nine weeks (2¼ months); the shortest was nine, and the longest twenty weeks. (6) In the hand, four weeks (1 month); variation from one to twelve weeks.

M. Polano, report on the amputations at Rotterdam ('Lond. Med. Rev.,' ii, 168): Mr. Holt on amputation in a case of pulmonary tuberculosis ('Lancet,' 1862, i, 516): M. Trélat, statistics of amputations in Paris ('Gaz. Hebd.,' 1862, p. 204).

J. F. Heyfelder, in a case of necrosis after amputation of the thigh, enucleated the rest of the femur by an incision on the outer side of the limb ('Deuts. Klin.,' 1862, p. 276): Mr. Lister, on compression of the aorta in amputation at the hip-joint (already noticed under the head of hæmorrhage): M. Guéniot on a peculiar hallucination of certain patients who have suffered amputation ('Journ. de Physiol.,' iv, 416): Mr. Pemberton on amputation by rectangular flaps ('Med. Times and Gaz.,' 1861, ii, 631).

SPECIAL SURGERY.

HEAD.

Injuries: In a communication made to the Surgical Society of Paris, M. Dolbeau has called attention to the presence of ecchymosis of the retro-pharyngeal cellular-tissue as a sign of fracture of the base of the skull. In a case at Bicetre under M. Despretz, a fracture of the frontal bone was found to be continuous with one of the base, which passed as far as the basilar process: blood was infiltrated behind the pharynx, from the occipital bone to the second cervical vertebra, and the mucous membrane was ecchymosed; the patient had complained of pain in his throat and of some difficulty in swallowing. The second was under M. Velpeau; the patient had some pain in swallowing and there was an ecchymosis of the pharynx: recovery took place and therefore the existence of fractured base was not certain. The third case also recovered; the patient presented a subconjunctival ecchymosis, and traumatic emphysema of the forehead; forty-eight hours after the accident ecchymosis of the pharynx was perceived. The portion of the pharynx in which the ecchymosis occurs, can only be seen with some difficulty; it is limited by the base of the skull above and the velum palati below, by the vertebral column behind and the posterior orifice of the nares in front ('Gaz. Heb.,' 1862, p. 125, and 'Brit. Med. Journ.,' 1862, i, 603).

Dr. B. Beck on fracture of the tabula vitrea ('Arch. f. Klin. Chir., ii, 547). At the battle of Vicenza in 1848, a soldier was struck by a shot over the right parietal bone. He instantly became unconscious and fell, but soon recovering remarked that his left arm was perfectly paralysed. Dr. Beck found that both the soft parts and the periosteum had been stripped from the bone; he could, however, find no trace whatever of any fracture. He diagnosed a fracture of the internal table, because the paralysis of the left upper extremity could only be explained by pressure so produced. Ice, calomel, &c. On the eleventh day the symptoms of cerebral irritation became more severe; instruments for trepanning were sent for, but before they arrived, the patient had perished on the fifteenth day after the injury. The post-mortem showed that there was scarcely any diploë, that the inner table presented a crucial fracture, and that there were inflammatory changes in the bone, brain and its membranes. Two minute fissures, which probably did not pass through the whole thickness of the external table, were also found at the place, which had been struck by the ball. In his remarks on this case, Dr. Beck defends the opinion, that the tabula vitrea is more fragile than the outer table; and he points out with justice the great influence, which is exercised by the diploë, in determining the effects of an injury; for example, if a spent ball strike the skull at a right angle and the diploë be largely developed, it will produce a fracture or indentation of the external table alone; if, on the other hand, the diploë be almost entirely absent, the tabula vitrea will be splintered more or less extensively.

Dr. Murney has tabulated the cases of fracture of the skull to the number of 253, which appeared in the journals during the years from 1851 to 1860 inclusive ('Dub. Quart. Journ.,' xxxiii, 282). There were 187 fractures involving the calvaria or lateral parts of the head: in 84 of these the fracture was situated in one of the parietal bones; in 57 the frontal; in 9 the occipital; and in 37 two bones of the calvaria or lateral regions of the head were implicated, or the precise part of the skull-cap was not specified. The mortality was:—most serious in the last class; out of 37 cases, 22 died; then in fractures of the occiput, 5 deaths; next in those of the frontal bone, where 25 died and 1 remained under treatment; fractures of the parietal bones were the least fatal, as of 84 cases, 34 died, and 1 remained under treatment. As a summary, we have 86 deaths, 99 recoveries, and two uncertain, in a total of 187 cases, or 46 per cent. of deaths.

Of the 187 cases the bone was depressed in 149, and was elevated by operation in 124: of the latter cases 60 died, 62 recovered, and 2 remained under treatment; the mortality being nearly 50 per cent. In 25 cases of fracture with depression, no operation was performed; 7 died, 18 recovered, or a mortality of 28 per cent.

Of fractures without depression there were 38, of which 25 were subjected to operation and 13 were not; of the former 13 died, 12 recovered; of the latter 5 died, 8 recovered.

Thirty-four cases with depressed bone, but without symptoms of compression, were operated on; of these 22 recovered, and 12 died; this series should probably be much greater.

Of cases styled protrusion or hernia of the brain, there were 35 reported—17 died, 18 recovered. Of wound or laceration of the brain, 27 cases—18 died, 9 recovered. In all 62 cases, with 35 deaths.

In 66 cases of fracture of the base of the skull, 46 died, 20 recovered, or a mortality of about 69 per cent.

According to the accounts of the post-mortem examinations in the 46 cases, the following were the situations of the fractures:—of the middle fossa alone there were 11 cases; of the anterior 10; of the posterior 2; of the anterior and middle 4; of the posterior and middle 9; one of these had separation of the coronal suture. There were 5 cases of fracture running into each of the three fossæ; 3 of these had, in addition, separation of the coronal suture. There were 5 cases in which the precise locality was not described.

In a case of fracture of the frontal bone, observed by Dr. Murney, there were, besides ecchymosis of the eyelids and conjunctiva, two small contused wounds on the left side of the face, one beneath the outer, the other beneath the inner canthus, from which there was for some hours continuous bleeding, followed for twenty-four hours by copious weeping of serum. The post-mortem examination showed in addition to other mischief a fracture of the base, which passed through the orbital process, and the sphenoid, and ended in the basilar process of the occipital, half an inch in front of the foramen magnum.

Dr. Willson, loss of large amount of brain substance from a gunshot wound, recovery ('Amer. Med. Tim.,' 1861, p. 237): Mr. West on concussion and compression ('Lancet,' 1862, i, 658), and case of gunshot wound of the cerebellum (ib., 659): case of abscess in the brain following injury to the head ('Med. Tim. and Gaz.,' 1862, i, 267): Mr. Paget on a case of wound of the brain by a stick pushed through the orbit (ib., p. 268): Mr. Adams, clinical lecture on a case of laceration of the brain without fracture of the skull (ib., p. 401): Mr. Edwards, case of laceration of the middle meningeal artery, from a fracture of the internal table only ('Edin. Med. Journ.,' viii, 191): Dr. Williams, compound comminuted fractures of the skull ('Brit. Med. Journ.,' 1862, ii, 219): Case of fracture of the base (ib., 84): lengthy papers on brain disease after injury of the head, by Dr. Brünniche ('Journ. f. Kinderkr.,' xxxvii, 34), and Dr. Friedberg ('Arch. f. Path. Anat.,' xxii, 39): a collection and analysis of the cases of abscess of the brain recently published, by Dr. Schott ('Würzb. Zeits.,' 1861, p. 462).

Surgical diseases of the head.—H. O. Hitchcock, caries of the occipital bone, operation, recovery ('Amer. Med. Times,' 1862, ii, 59). A healthy man, sixty years of age, was attacked with severe pain and other symptoms of inflammation behind the right mastoid process: eight weeks later, he was much worn by intense suffering and sleepless nights. A probe passed into a fistula just behind the mastoid, penetrated downwards and inwards for nearly two inches, and impinged on denuded bone. The diseased portion of the occipital was laid bare and scraped off: at one point the whole thickness was removed. Slow improvement followed: the pain was much relieved, but a retro-pharyngeal abscess caused considerable suffering. The wound closed after many months, and the patient entirely recovered, except that a little stiffness of the neck remained even two years after the operation.

Mr. Hulke, abscess of the frontal sinus ('Oph. Hosp. Rep.,' iii, 341): A. Klementowsky on congenital hernia of the brain (Schmidt's 'Jahrb.,' cxv, 161): Demme on extracranial cysts communicating with the sinuses of the dura mater ('Arch. f. Path. Anat.,' xxiii, 48).

Professor Langenbeck on tumours of the spheno-maxillary fossa, (Sachs' 'Med. Alman.,' 1862, 261). The diagnosis of these cases is of the greatest importance, because such tumours make their way through the base of the skull, causing fatal mischief, and because, at an early period, they may be removed with safety and ease, by means of resection of the malar bone. Langenbeck has observed three cases, all of the kind called cavernous. Tumours of this region have well-marked symptoms. Commencing in the pterygo-palatine fossa, they grow at first in the direction, where the neighbouring parts present the least resistance: they make their appearances above and below the malar bone as slight and not distinctly circumscribed prominences of the cheek and temple. After a time they cover the whole exterior of the superior maxilla, and distend the temporal fossa; their upper portion is separated from the lower by a constriction formed by the malar bone. At the same time they penetrate through the spheno-maxillary fissure into the orbit, and press the eyeball upwards and somewhat forwards. They also soon penetrate through the spheno-palatine foramen into the posterior nares, driving the mucous membrane before them. As the spheno-maxillary fossa is separated from the great vessels of the neck and from the parotid region by the pterygoid fascia, they cannot readily pass in that direction. Perforation of the cranium cannot be diagnosed with certainty, because it occurs in some cases, without inducing any symptoms. A cavernous tumour of this fossa presents the symptoms common to such tumours in other parts of the body: a most deceptive feeling of fluctuation, little or no pain on pressure, and striking changes in size, so that a tumour may be one day small and flaccid, on the next tense and twice as large. Langenbeck considers the following symptom decisive; if the tumour is carefully compressed with the fingers, it almost entirely collapses, but when the pressure is removed, it very slowly expands to its former size, like a compressed sponge placed in water. F. E—, a healthy young man of sixteen, was admitted on the 15th June, 1860. For two years he had been suffering from a tumour, which had rendered the temporal region and cheek on the right side prominent, and had also pressed the eye somewhat out of the orbit. This tumour presented all the symptoms just mentioned, and was therefore diagnosed as a cavernous tumour of the spheno-maxillary fossa.

An incision, full three inches long, was carried from the temporal fossa close to the outer margin of the spheno-frontal process vertically over the malar bone to the cheek, the temporal fascia was divided, and the malar bone was sawn through near its junction with the zygomatic process of the temporal. A second section with the saw commenced close to the outer edge of the spheno-frontal process and passed obliquely forwards and downwards through the malar bone, from which a piece, an inch in length, was thus separated. As soon now as the muscles had been divided longitudinally and drawn aside, the tumour came into view, passing downwards between the coronoid process of the lower jaw and the outer surface of the upper jaw. The tumour was quite the size of a goose's egg; its pedicle was as thick as a finger and passed in the direction of the pterygo-palatine fossa, where it was attached to the anterior surface of the pterygoid process of the sphenoid bone; it was scraped off the bone at this point, and then the removal of the tumour offered no further difficulty. There had been very considerable bleeding from a part of the tumour which had been wounded early on in the operation: this bleeding stopped, as soon as the pedicle was separated from the bone. This deep wound filled up slowly, so that cicatrization was not complete before the beginning of August. There was no sign of any recurrence at the time of the patient's discharge.

Another case of tumour of the same fossa has been reported by Langenbeck, for which he performed an osteoplastic resection of the upper jaw ('Deutsche Klin.,' 1861, p. 281, and Schmidt's 'Jahrb.,' cxiii, 198). A boy of fifteen, was admitted on the 26th June, 1861. For nearly two years, the left nostril had been filled up; during the last seven weeks the cheek and eye have become more prominent: the vision with this eye is still perfectly good. The finger introduced through the mouth feels a firm, elastic, lobulated tumour filling the posterior nares on the left side. The teeth on the left side are healthy. On the face a tumour is found to be pressing out from between the masseter and maxilla. The zygoma on the left side appears somewhat more prominent, and the temporal fossa more full. The whole of the left side of the face appears to be thrown forwards. Diagnosis;—a fibroid of the pterygo-palatine fossa, which has passed through the spheno-palatine foramen to the posterior nares, into the spheno-maxillary fossa, and finally forwards between the jaw and masseter. On the 1st of July, the operation was performed under chloroform. A semilunar incision with its convexity downwards was carried from the ala nasi to the malar, and then on to the middle of the zygomatic process of the temporal bone. A second incision proceeded from the nasal process of the frontal along the lower margin of the orbit to the middle of the zygoma, where it united with the one first formed. Without separating the skin, Langenbeck at once penetrated by the lower incision to the jaw, cut through the periosteum, and divided the masseter from its attachment to the zygoma. A lobulated, white tumour came into view, as soon as the fascia buccalis was cut through. It was now found, that by pressing the tumour on one side, the finger could be pressed through the spheno-palatine foramen into the nostril: a horizontal section of the jaw was made with a delicate straight saw introduced in the same way. The saw was then employed to divide the zygoma, the frontal process of the malar into the spheno-maxillary fissure, and then from the latter the orbital process of the maxilla to the lachrymal bone. This portion of the jaw now remained in connection only with the nasal bones and the nasal process of the frontal. An elevator was placed under the malar bone, and the piece was slowly raised forwards, until the malar was nearly in the middle of the face. The tumour was completely exposed: after its removal the portion of the jaw was replaced, and the wounds of the skin united with sutures. The operation lasted an hour. The traumatic fever ceased on the fifth day; and on the seventeenth the wounds were completely healed.

On the 17th July, a similar case was operated in the same way, and with success.

Langenbeck concludes that; 1, to render tumours of the naso-pharyngeal cavity and of the neighbouring parts accessible, it is sufficient to partially resect the upper jaw, without removing the hard palate and alveolar process: 2, in future, extirpation of the whole jaw for this purpose should be abandoned: 3, it is possible to saw through the jaw horizontally from the spheno-palatine foramen: 4, a portion of the jaw, so resected, and restored to its natural position, may unite again.

A case of excision of both superior maxillary bones, under Mr. Lane ('Lancet,' 1862, i, 96): B. Langenbeck, sub-periosteal resection of the upper jaw ('Arch. f. Klin. Chir.,' ii, 241): Mr. Adams, clinical lecture on necrosis of the lower jaw from phosphorus ('Med. Times and Gaz.,' 1862, ii, 1): M. Verneuil, case of necrosis of the upper jaw from phosphorus ('Gaz. d. Hôp.,' 1862, p. 263).

EYE.

C. Deval, 'Treatise on Eye Diseases,' pp. 16 and 1056, Paris, Albessard et Bérard. C. Sperino, 'Clinical Studies on Repeated Paracentesis of the Anterior Chamber,' 8vo, pp. 494, Turin, V. Vercellino (reviewed in the 'Ann. d'Ocul.,' xlviii, 198). L. Boehm, 'Coloured Light in the Treatment of Eye-diseases,' Berlin, 1862, A. Hirschwald, pp. 16 and 240. Dr. Pagenstecher and Dr. Saemisch, 'Clinical Observations from the Eye Hospital at Wiesbaden,' part 1, pp. 4 and 80, Wiesbaden, J. Niedner. C. Wedl, 'Atlas of the Pathological Histology of the Eye,' Leipzig, G. Wigand (the fourth and last part). L. Wecker, 'Treatise on the Diseases of the Eye,' Paris, J. B. Baillière (the first part). X. Galezowski, 'Clinical Observations,' Paris, H. Plon, pp. 46 (a collection of five short papers previously published in the journals). F. P. Ritterich, 'Further Contributions to Ophthalmic Medicine,' 4to, pls. 7, pp. 7 and 70, Leipzig, C. F. Winter. F. A. von Ammon, 'Plates of the Pathological Anatomy of the Cornea, Sclera, Choroid, and Optic Nerve,' Leipzig, Teubner. J. M. A. Schön, 'Contributions to Practical Ophthalmic Medicine,' pp. 10 and 209, Hamb., Hoffmann and Campe. R. Stellwag von Carion, 'Treatise on Practical Ophthalmic Medicine,' pp. 737, Wien, W. Braumüller.

There have also been published—a second edition of Zander on the ophthalmoscope, a reprint from Pilz's work (under the title of 'Compendium'), and another part of Seitz's treatise. Mr. Robertson has given a sketch of the progress of ophthalmology ('Edin. Med. Journ.,' viii, 40): Mr. Wilde, a report on the number, sexes, and condition of the blind in

Ireland ('Med. Times and Gaz.,' 1862, i, 663). Dr. Klob has reported a case of colour-blindness, in which the corpus callosum was absent ('Jahrb. f. Kinderh.,' iii, 3, and Sach's 'Alm.,' 1862, 310): Dr. H. Schiess, researches on the pathological anatomy of the eye ('Arch. f. Path. Anat.,' xxiv, 557): Dr. Koller, report on the cases treated at Professor Arlt's clinic in the years 1860 and 1861 ('Wien. Med. Halle,' 1862, p. 17, &c.): Mr. Nunneley on a new forceps for use in ophthalmic surgery ('Lancet,' 1862, ii, 7): Mr. Hancock, some further observations on division of the ciliary muscle ('Lancet,' 1862, ii, 112, &c.): Mr. Clarke on the propriety of excising the eyeball immediately, when destroyed by injury ('Brit. Med. Journ.,' 1862, i, 306). Mr. Wells on the insufflation of calomel in certain diseases of the eye ('Ophth. Hosp. Rep.,' iii, 314): cases of cysticercus (ibid., 322, 324): cases of coloboma of the iris, choroid, &c. (ibid., 335): C. Baeumler, an elaborate essay on coloboma oculi ('Würzb. Zeits.,' iii, 72). Dr. P. Frank has published in the 'Army Medical Reports' for 1860 (London, 1862) an elaborate report on ophthalmic surgery, illustrated by coloured drawings of some interesting ophthalmoscopic cases.

Dr. C. Ritter, contributions to "the pathological anatomy of the eye, derived from experiments on animals" ('Arch. f. Ophth.,' viii. 1, p. 1).—Immediately after its removal, the eye was opened by an equatorial section; all the tissues were at once examined, and then placed in a very weak solution of bichromate of potash for a few days, when the examination was completed. The author describes and figures, just as Finkbeiner, an epithelium of the hyaloid. 1. Consequences of reclination; the fibres of the reclined lens wither, their contents becoming disintegrated, their membranes probably remaining unchanged; the vitreous becomes fluid; the epithelium of the hyaloid fatty. 2. Consequences of discision and of wounds of the anterior capsule. 3. On the origin of panophthalmitis; the author endeavours to show, that all the pus found in the vitreous, retina, and choroid, is derived from the stroma-cells of the choroid; according to him, mixed with pus-corpuscles and fibrinous exudation in the vitreous space, there are also to be found pieces of the hyaloid membrane with its epithelium in a state of fatty degeneration, the membrane itself, however, without any apparent change, portions of every part of the retina, shreds of the membrana limitans, nerve-cells, portions of the rod-layer, &c.

Mr. Lawson gives some cases ('Oph. Hosp. Rep.,' iii, 317), to illustrate the advantage of tapping the anterior chamber of the eye in cases of sloughing ulcers of the cornea, or of ulcers which refuse to heal under other modes of treatment, in cases of onyx, or of ophthalmitis with hypopion. The operation is a simple one, and best performed in the manner usually adopted at Moorfields,—by passing a broad needle through the cornea at its lower margin, keeping the point well forwards towards the cornea, to avoid wounding the lens, and then suddenly turning it on its edge so as to allow the aqueous to run off, and rapidly withdrawing it, as soon as the iris approaches the cornea.

Mr. Lawson has also contributed a paper on the treatment of photophobia ('Med. Times and Gaz.,' 1862, ii, 126); the following case well exemplifies the serious results, which may follow a reckless use of the nitrate of silver, even when applied externally:—"A case has lately been under my care, where the surgeon, with more zeal than discretion, freely applied the nitrate of silver to the skin of both the upper and lower lids of one eye, and also around the orbit. Violent cellular inflammation and suppuration followed, not only of both the upper and lower eyelids, but also of the cellular tissue of the cheek. The child was at one time in a very precarious state, and although she has now recovered, yet an ectropion of the lower lid, caused by an adhesion of the integument to the malar bone, remains."

Mr. Critchett has of late often prescribed arsenic in certain chronic forms of ophthalmia occurring in young persons. It is chiefly in intractable cases of pustular ophthalmia, which have lasted far beyond the usual period, and which are attended by intolerance of light and a feeble and irritable state of the system generally, that this remedy seems useful. In the same class, quinine and iron are often very effectual, but the arsenic not unfrequently manifests peculiar and superior powers. If desired, it may be conveniently prescribed in combination with iron. For children, the common steel wine is a very suitable vehicle. For a child, five years old, a minim of Fowler's solution in a teaspoonful of steel wine, given three times daily, is an appropriate prescription, and one under which many a case of severe pustular ophthalmia will recover with great rapidity ('Med. Times and Gaz.,' 1862, i, 11).

Mr. Streatfeild has introduced the use of atropine paper ('Ophth. Hosp. Rep.,' iii, 310); its great advantage is its portability. It is prepared by Mr. Squire, 277, Oxford Street, London. The paper has been dipped in a solution so strong that a piece of it, one fifth of an inch square, contains as much of the salt as a drop of the solution of two grains to an ounce of water. It is made up in little books with stiff covers; each page is an inch square, with black lines dividing it into fifths both ways, thus each page contains twenty-five doses. The little piece of the paper to be used, is taken up on the tip of the forefinger, previously damped; the patient's lower lid being drawn down, and his eye directed upwards, the scrap of paper is placed on the sclerotic conjunctiva below the cornea, almost without his knowledge; the lid is then let go, and the piece of paper is left between the ocular and palpebral conjunctivæ; a handkerchief is tied over the eye, for the purpose of keeping the lids closed for a time.

Eyelids.

Mr. T. P. Teale on the relief of symblepharon by transplantation of the conjunctiva ('Ophth. Hosp. Rep.,' iii, 253).—Mr. Teale's operation is composed of two parts; 1, the separation of the lid from the globe, and 2, the transplantation; in the former, any portion of the lid adherent to the cornea should not be separated; in the latter, two flaps of conjunctiva should be made, one for the inner side of the eyelid, and the other for the globe. Mr. Teale relates four cases; the first is as follows:—April, 1860, Joseph Jessop, æt. 40, a "puddler" at an iron foundry. Twelve months ago he was struck in the right eye by a hot cinder, which has given rise to a symblepharon. The middle portion of the lower eyelid for the breadth of one third of an inch is adherent to the eyeball, the skin of the lid being blended with the surface of the cornea to such an extent as to conceal the lower margin of the pupil. The movements of the eye are much restrained, so that he cannot look to one side without turning his head; as he says, "he can't look no way." There is epiphora, as the tears cannot make their way to the puncta. Vision is also somewhat interfered with.

April 7th.—The eyelid having been dissected off the globe, two flaps of conjunctiva were dovetailed into the situation of the symblepharon, the skin forming the apex of the symblepharon being left on the surface of the cornea.

August 27th, 1861.—It is now difficult to distinguish the eye operated on from the other. The movements of the eye are perfectly free in all directions. There is a band of transplanted conjunctiva three eighths of an inch in breadth, extending from the edge of the lid to the margin of the cornea, and dipping down between the lid and the eyeball. The epiphora has ceased. The apex of skin left on the cornea has become transparent, and can only be detected by examination under a strong light. The sight has also been considerably improved.*

Mr. Teale draws the following conclusions:

1. That conjunctiva may be transplanted without losing its vitality or properties.

2. That a symblepharon may be replaced by loose moveable conjunctiva, at least equal in breadth to the flaps originally transplanted.

3. That a comparatively small breadth of conjunctiva introduced into the situation of a symblepharon is sufficient to afford greatly increased, if not perfect freedom of motion to the eyeball, a freedom which continues to increase for many months after the operation.

4. That where the conjunctiva of the lateral and upper parts of the eyeball has not been damaged, flaps of a quarter of an inch in breadth may be taken away without giving rise to any deterioration of the parts whence they have been taken.

5. That in separating the adherent eyelid from the globe, it is not necessary to dissect off from the cornea any portion of the skin that may be adherent to it, but that it is better to commence the separation of the lid at the margin of the cornea, leaving the opaque apex of the symblepharon adherent to the cornea. My object in commencing the separation of the lid at the margin of the cornea, thus leaving an opaque island of skin on the cornea, was twofold. In the first place, it seemed more than probable that, if the corneal surface had been denuded of its adherent skin, any conjunctiva transplanted into the gap would be drawn by cicatrization over the newly made raw surface of cornea, as the skin of the eyelid had been in the first instance. The conjunctival flap would thus have been rendered useless, and the opaque skin would have been replaced by not very transparent conjunctiva. In the second place, I had a faint hope, that the isolated portion of skin, being cut off from all continuity with skin, and depending for its nutrition on the cornea supporting it, and a merely cicatricial union with conjunctiva, might become atrophied and less opaque. The result has far exceeded my expectations. In the

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* A photograph of this patient, taken seventeen months after the operation, with which we have been favoured by Mr. Teale, shows in a most satisfactory manner the great improvement.—T. W.

case of Jessop, the trace of this skin can only be detected in a good light. In two other cases the situation of former fræna can only be seen on minute inspection. In the case of Spence, operated on last March, the edges of the opacity have become transparent, and the remaining portion is atrophied, and but little raised above the level of the surrounding cornea.

A case of Mr. Teale's operation performed by Mr. Hulke, is recorded in the 'Med. Times and Gaz.' (1862, ii, 33).

Mr. Hancock, division of tensor tarsi in entropium ('Lancet,' 1861, ii, 569): Dr. Bahr on a modification of Jäsche's operation for entropium ('St. Petersb. Med. Zeit.,' ii, 142): Dr. Ellinger on parasitic growths in blepharitis ciliaris ('Arch. f. Path. Anat.,' xxiii, 449): M. Fano on cauterization of the hair-bulbs in partial trichiasis ('Gaz. d. Hôp.,' 1862, p. 346), and on the nature and treatment of cysts of the eyelid ('Bull. de Thérap.' and 'Ann. d'Oculist.,' xlvii, 134): M. Guérin, new operation for blepharophasty ('Gaz. d. Hôp.,' 1862, p. 444).

Orbit.

Mr. Hart on intra-orbital aneurism ('Lancet,' 1862, i, 271); he relates a case of arterio-venous aneurism, in some respects similar to Nélaton's (Henry, 'Anév. Art. Vein., Thèses de Paris,' 1856): case of successful ligature of the carotid for orbital aneurism, by D. Greig ('Edin. Med. Journ.,' viii, 446): Mr. Beaumont, wound of the orbit by rocket-shaft ('Lancet,' 1862, i, 626): Professor Arlt, abscess of orbit ('Woch. d. Zeit. d. k. k. Ges.,' 1862, pp. 143, 181): H. Tirman, case of encephalocele in the orbit, pulsating and attended by a *bruit de souffle* ('Arch. Gén.,' 1861, ii, 715): Mr. Moore, case of removal of extensive cancer from the orbit ('Brit. Med. Journ.,' 1862, ii, 192): Mr. Thorp on encysted tumours of the orbit, &c. ('Dub. Quart. Journ.,' xxxiii, 81): E. Grünhoff, thesis on exostosis of the orbit (Dorpat, 1861); it contains thirty-seven cases, collected from various sources.

Exophthalmus.—Cases by F. Bumstead ('Amer. Med. Tim.,' 1862, i, 164, 217; and 'Ophth. Hosp. Rep.,' iii, 327): on exophthalmus with bronchocele and heart affection, by M. Trousseau and others ('Med. Tim. and Gaz.,' 1862, ii, 119; 'Gaz. d. Hôp.,' 1862, p. 343, &c.; 'Deuts. Klin.,' 1862, p. 207).

Lachrymal Apparatus.

Dr. A. Weber on the treatment of stricture of the lachrymal passages ('Arch. f. Opth.,' viii, 1, p. 94).—According to Dr. Weber, the following forms of disease are cured by the method of Bowman: 1, all cases of stricture of the lachrymal canals from inflammatory causes; 2, cases of valvular or fold-like stricture at the junction of the sac with the nasal duct, provided there is little or no secretion of mucus or pus; in such cases the sac is often found to be diminished in size; 3, obstructions at the point where the nasal duct enters the nostril; 4, perhaps even cases of complete obliteration of the lachrymal passages, such as occur after obliteration of the sac by the actual cautery; at least Dr. Weber has succeeded in rendering the lachrymal passages permeable in such a case, and with much benefit to the patient.

Incurable by this method are,—1, complete obliteration of the lachrymal canals near the point where they enter the sac; 2, the cases already mentioned of stricture in the nasal duct, when they are accompanied by an abundant discharge of mucus or pus; 3, cases of callous stricture of the duct; 4, cases in which the mucous membrane is hypertrophied and swollen; 5, cases of polypoid degeneration of the mucosa; 6, all cases of epiphora, dependent on caries; 7, all the cases in which the sac has become relaxed from over-distension.

The author considers, that Mr. Bowman's sounds—

1. Are not sufficiently thick to restore the calibre of the duct to its normal size.

2. That they do not correspond to the shape of the duct.

3. That they are not sufficiently flexible.

In their place he recommends the finest elastic urethral bougies and conical wax bougies; the diameter of the latter should be from 1·5 to 2 mm. at the point, should soon augment to 4 mm., and thenceforward the bougie should be cylindrical. The elastic bougies are furnished with a wire, which renders them sufficiently strong, without destroying their elasticity. At the distance of 37·5 mm. from the point, they are marked by a thread, to denote the greatest length of the nasal duct. Where the stricture is very narrow and callous, he employs two conical silver sounds, the one beginning with Bowman's No. 1, and increasing to 1·5 mm. or 2 mm., and the other beginning with 1 mm. and augmenting to 3 mm. or 3·5 mm.; these sounds are graduated in lines. It should be remembered, that the maximum length of the nasal duct from the sac to the nose is nine lines, and from the latter point to the floor of the nasal cavity six lines (each line is equal to 2·5 mm.). This change in the instruments necessitates a change of the manual proceeding, at least in some respects. The author divides the superior lachrymal canal with a little probe-pointed tenotome (1·5 centim. long, 1·5 mm. broad), and then pushing the same instrument on into the sec, performs a subcutaneous section of the ligam. int. (tendo oculi) and inner wall of the sac. He then, by means of the graduated silver sound, determines the position and resistance of the stricture: if callous, he at once dilates it up to Bowman's No. 5 or 6 by pushing the conical sound onwards, employing, however, in the after-treatment elastic or wax bougies; if, on the other hand, the stricture is soft and yielding, he employs the elastic bougies from the beginning. The rapidity with which the stricture may be dilated in the further-treatment, depends on the amount of inflammation present; if there is little or no inflammation, it may be rapidly dilated,—if there is much inflammation, it is better to act with great caution, perhaps for a time to use only the finest gum elastic bougies, till the inflammatory symptoms have diminished. The author considers that the local treatment by injections is of great importance; he employs acetate of lead or sulphate of zinc in the slighter cases, sulphate of copper in those attended with much purulent discharge or great swelling of the mucous membrane. In some cases of distended and relaxed sac, he has slit up the lachrymal canal, and then, by means of a *couteau mousse*, introduced into the sac, he has enlarged the incision upwards and downwards, as far as the limits of the sac would permit; such a plan has been occasionally of much service.

Professor Arlt, lectures on the diseases of the lachrymal organs ('Spit. Zeit.,' 1862, pp. 265, 298, &c.): Zeissl on syphilitic diseases of the lachrymal organs (Grävell's 'Notiz.,' 1862, p. 230): Mr. Chalk on compression of the sac ('Lancet,' 1862, ii, 22).

Muscles.—Dr. Wells and Dr. Schulz on electricity in paralytic affections ('Med. Tim. and Gaz.,' 1861, ii, 660: 'Wien. Med. Wochens.,' 1862, 243).

Accommodation.

F. C. Donders, 'Astigmatism and Cylindrical Glasses,' pp. 12 and 137 (Berlin, H. Peters).

Prof. v. Jaeger, 'On the Accommodation of the Human Eye,' 2nd edit., pp. 8 and 283, 5 plates (Wien, Seidel).

J. S. Wells 'On Long, Short, and Weak Sight, and their Treatment by the Scientific Use of Spectacles,' pp. 9 and 112 (Lond., Churchill).

Recent researches on the optical relations of the eye ('Brit. and For. M.-C. Rev.,' xxix, 1).

E. Follin on the accommodation of the eye ('Arch. Gén.,' 1862, ii, 77).

Mr. Solomon publishes a continuation of his experimental inquiry into the value of incision of the ciliary muscle ('Med. Tim. and Gaz.,' 1862, i, 56). For the relief of short-sightedness alone, he has operated upon forty-one eyes by intra-ocular myotomy, and one eye only has been damaged. The case was that of a little girl, an out-patient, who removed all the plasters and freely exercised her eyes on the second or third day after the operation; but notwithstanding this disregard of after-treatment, the fellow eye made a good recovery. Mr. Solomon's experience warrants him, therefore, in stating that the operation is quite safe, when proper precautions are taken before and after its performance. According to the author, intra-ocular myotomy is a safe and expeditious method of relieving short-sightedness. 2. The relief is not temporary. 3. In many cases it obviates the necessity of wearing spectacles. 4. It never injures the range of accommodation. 5. It renders the myopic eye more healthy by improving the nutrition of the choroid, retina, and vitreous humour: myopic amblyopia is sometimes cured by it. 6. It has arrested a rapidly increasing myopia, and cured the choroido-retinal irritation with which it was connected. (See also 'Med. Tim. and Gaz.,' 1862, ii, 162.)

Conjunctiva and Cornea.

Dr. C. Büttner has made a series of experiments on the changes of nutrition, which occur in the eye after section of the fifth pair (trigeminus). This subject has been, for some time, of interest in regard to the so-called neuro-paralytic inflammations; on the one hand, Schiff came to the conclusion, that the paralysis of the vaso-motory nerves, which was induced by section of the fifth, caused dilatation of the blood-vessels, and as a further consequence inflammation: on the other hand, Snellen endeavoured to show, that the inflammation was caused by external irritants, to which the eye was especially exposed owing to its loss of sensibility, and that section of the nerve had no important influence over the inflammatory process. To this Schiff replied, that in some cases of partial section of the ophthalmic division of the fifth, the eye loses all its sensibility, and yet neither hyperæmia nor inflammation is the result. Besides, Snellen had forgotten to prove, that in his experiments the nerve had been really and entirely divided. On a repetition of the experiments of Snellen, Schiff invariably found hyperæmia of the conjunctiva and of the iris, and also some opacity of the cornea. Under the guidance of Prof. Meissner, the author has repeated the experiment of dividing the fifth nerve in sixty rabbits; in about twenty-five of these he succeeded in the section without wounding other important parts. He employed the neurotome, and followed the method of C. Bernard ('Lecons sur la Phys. et la Pathol. du Système nerveux,' ii, 51); he found that the cerebrum was always slightly wounded, but that if other important parts (such as the carotid artery or cavernous sinus) were avoided, the operation in no way endangered life. Dr. Büttner found Schiff's repetition of Snellen's experiment confirmed; the inflammation was always developed, though more slowly, than when the eye was exposed. As these experiments were, however, open to objection, Dr. Büttner proceeded to try others, at the same time perfectly protecting the eye from external irritants by a leather capsule, in which a watch-glass was fitted, so that the eye could at any time be examined without being uncovered. The result was, that so long as the eye was perfectly protected by the capsule, there did not occur the least alteration —no redness, opacity, or increased secretion could be perceived; in a few hours after its removal, however, all the ordinary symptoms appeared. Thus it seems to be fully proved, that section of the trigeminus causes no direct change in the nutrition of the eye, and that the consecutive inflammation is always excited by external irritation.

Another question is, whether section of the fifth causes a greater tendency to hyperæmia, a diminished power of resisting the action of external agents, or whether the simple reason is, that owing to the loss of sensibility, the eye is exposed to irritants in a way, which could not have occurred, had it possessed its normal feeling. The author takes the former view, because, as already stated, and as he had an opportunity of observing in three rabbits, the eye may lose all sensibility, and yet no inflammation ensue. On the dissection of these cases, he found, that the origin of the ophthalmic division and not the Gasserian ganglion had been wounded, and that even the nerve was not entirely divided, a small portion of its under surface remaining entire. So much for neuro-paralytic inflammation.

There is, however, another and much more acute form of inflammation, which appears to be caused by irritation of the Gasserian ganglion; at least such is the conclusion to be drawn from one of the author's experiments, and also from one related by Samuel. The latter irritated the ganglion in rabbits by means of the induction apparatus; this process was followed in less than twenty-four hours by a violent inflammation of the conjunctiva and cornea, ending in ulceration. The severity of the attack increased up to the third day, then again diminished. During this process, the sensibility of the eye was rather increased, than lessened. According to Dr. Büttner's experiment, this form of inflammation comes on, even though the eye is perfectly protected from external irritants. The varying statements of different authors may be probably to some extent explained by the discovery of the two forms of inflammation which have been just described. ('Zeits. f. ration. Med.,' xv, 254, 1862).

J. Z. Laurence on syphilitic corneitis ('Brit. Med. Journ.,' 1862, i, 61): J. C. Wordsworth, on a case of perforating ulcer of the cornea, producing a fistulous opening into the anterior chamber and partial collapse of the globe, cured by iridectomy ('Lancet,' 1861, ii, 328): cases of staphyloma corneæ under H. D. Noyes and Mr. Hulke ('Amer. Med. Times,' 1862, i, 264, 274; 'Med. Times and Gaz.,' 1862, ii, 128).

A. Grosz, on the Egyptian military ophthalmia ('Wien. Med. Wochens.,' 1862, 53, 69): M. Richard on excision of the conjunctiva—*tonsure conjonctivale* ('Gaz. d. Hôp.,' 1862, p. 298).

Iris.

On gonorrhœal inflammation of the iris, by J. C. Wordsworth ('Oph. Hosp. Rep.,' iii, 301) and J. Rollet ('Researches on Syphilis,' Paris, 1861, p. 393).—The former author has had occasion to treat three cases of iritis in connexion with gonorrhœa; he had previously been a close observer of the practice of the London Ophthalmic Hospital for ten or twelve years, as well as of that of one of the largest general hospitals in London, and had failed to recognise a case of iritis which appeared dependent on gonorrhœal influence only, although he had frequently seen it in association with gonorrhœa and syphilis together. The latter author records two cases, and states that he has seen many more: he considers it to be closely connected with gonorrhœal rheumatism, in fact to form really a part of the latter affection, just as endocarditis does of the common rheumatism; in ten cases of gonorrhœal rheumatism, there will be at least one complicated with iritis.

According to Rollet, the anterior layer of the iris, the so-called serous layer, is the ordinary seat of this affection: in many cases it becomes propagated to the posterior surface of the cornea. It commences with a zone-like congestion on the sclerotic, such as is almost always seen in iritis. Sometimes there are photophobia and lachrymation. The outer surface of the cornea preserves all its brilliancy, but the layer lining its inner surface becomes misty; at the same time, the aqueous humour seems more abundant, and the patient complains of a sensation of fulness in the eye. The iris becomes dull, the pupil contracted. In Mr. Wordsworth's cases, the disease was severe, with a marked tendency to relapse and to recur. The subjective symptoms were intense, out of all proportion to the objective; the pain was extreme, and resisted all treatment for a time. All the cases were attended by profuse lachrymation, and intolerance of light, beyond what is usually noticed in syphilitic or rheumatic cases. They peculiarly resented all attempts to dilate the pupil, which soon became contracted and fixed. In all, the cornea was decidedly involved, but the affection of the iris was the prominent feature of each case: and all required mercury for their cure, though unattended by much exudation or great vascularity of the iris itself; synechia posterior occurred in all.

There does not appear to be any marked difference between gonorrhœal iritis and serous iritis due to other causes; Rollet is of opinion that the diagnosis must rest upon the simultaneous occurrence with gonorrhœa and arthritis.

As an illustration, we take the first of Mr. Wordsworth's cases. "It was that of an elderly gentleman, who was suffering from a profuse urethral discharge, synovitis of both knees, with great effusion into the joints, and double iritis. He had had two or three previous attacks. When I was called to see him, he had considerable sclerotic vascularity, forming a complete corneal zone of rather livid hue; the corneæ were partially opaque, and permitted but an imperfect view of the irides; the pupils were contracted and irregular. He had intense pain round the orbits and deep in the globes, profuse lachrymation, and his vision was diminished, and attended with great discomfort. He was greatly depressed in health and spirits, his tongue was very foul, his stomach irritable, his skin covered with clammy cold perspiration, and his circulation very weak and irregular. Belladonna was applied locally, after a few leeches had been applied to the cheeks; light tonics and sedatives were administered internally. In consequence of the irritability of his stomach, we were obliged to change the remedies often, till he recovered sufficiently to commence a slight mercurial course. He suffered so much from the application of belladonna and atropine, that we were obliged to discontinue their use; indeed the eye and even the lids were so tender and irritable, that no application could be borne. As soon as the mercurial influence was established, the disease began to abate, and he slowly and progressively improved. With slight changes in the weather, the improvement was interrupted two or three times; but he ultimately made a tedious recovery. Some synechia resulted, as he could never bear the belladonna, but vision was restored to a satisfactory extent."

Dr. Alfred Graefe had occasion in a very severe case of syphilitic iritis, to remove one of the tubercles ('Arch. f. Ophth.,' viii, i, p. 288): it was examined by Dr. Colberg and found to be principally composed of very closely pressed together, young connective-tissue cells, with nuclei that strongly refracted light; it thus resembled a gummy tumour at an early stage, as described by Virchow.

M. Fano, idiopathic mydriasis ('Gaz. d. Hôp.,' 1862, p. 178): Dr. Pagenstecher on iridodesis ('Arch. f. Ophth.,' viii, 1, p. 192).

Lens.

Dr. A. Mooren has published a pamphlet on a mode of diminishing the danger of suppuration of the cornea in extraction of cataract (Berlin, Hirschwald). In ninety-seven cases of extraction performed by him, eleven eyes were lost, one by intra-ocular hæmorrhage, one from fluidity of the vitreous, two from panophthalmitis, and seven from suppuration of the cornea. The last seven cases were in either very aged or decrepit individuals; treatment by antiphlogistics, and that by tonics, were equally useless. The great object, therefore, is to prevent the inflammation, which causes purulent infiltration of the cornea; and according to Dr. Mooren, this inflammation is an iritis excited by remains of the cortical portion of the lens, or springing up from some accidental cause in cachectic patients. He tried Schufft's method in thirty-two cases, of which no less than ten were lost. He then fully adopted a plan, which he had already to some extent practised,—that of making an iridectomy some time before the extraction. This gave him the excellent result, that he only lost two in fifty-nine cases, or in the ratio of 1 in 29½. This result is the more striking, because the cases were most unpromising, those of individuals far advanced in years, or marastic, whose eyes would have been certainly lost by any other method. Dr. Mooren considers that there are three points which decide as to whether an operation for iridectomy should be performed before the extraction; they are (1) the general condition of the patient; (2) the reaction of the pupil on the application of atropine; (3) the state of the lens itself. In all cases, where the general condition is unsatisfactory, either because the patient is marastic or far advanced in years, because he suffers from great congestion of the head or cannot remain, for some reason, in bed, the only safe method of operating is to perform iridectomy before the extraction. The greater the total of injurious influences, the longer should be the interval between the two operations. The greater the dilatation of the pupil after the use of atropine, so much the less resistance will it present to the passage of the lens, and so much the less probable will be the occurrence of iritis.

Extraction may be at once performed, when the lens is hard, or when it is formed by a hard nucleus with but little cortex. Should the pupil dilate after atropine only to one third of its breadth, extraction could only be recommended, in case all the other conditions were favorable. If, however, the nucleus is small, and the portions of the cortex are very coherent, iridectomy should be the first step. These are not simple speculative indications, but principles drawn from many and careful observations. All the cases which have been thus treated, are detailed by Dr. Mooren, their names and addresses being given, for such is the only way of fully proving their accuracy.

M. Stoeber reports a case of diabetic cataract, in which glucose was discovered in the lens ('Ann. d' Ocul.,' xlviii, 192).

Choroid.

Dr. R. Förster has published an elaborate account of an affection, which he calls choroiditis areolaris ('Ophth. Beit.,' p. 97, Berlin, Enslin). Pathologically, it is characterised by the production of circumscribed tubercles in the tissue of the choroid; in front they have a layer of extremely black pigment, which covers a variable amount of their surface; the rectina is thinned. The tubercles themselves are formed of a perfectly colourless tissue, containing a network of fibres with intermediate spaces: from the examination of specimens preserved in chromic acid, Professor Aubert was inclined to consider them as colloid tumours, owing to the transparency, the irregular course of the fibres, the distinct circumscription, and the presence of little corpuscles in the intermediate spaces. Dr. Förster has met with twenty-nine eyes (in eighteen persons) affected with this disease. It is characterised by the occurrence of very numerous, circumscribed centres, between which the fundus appears normal. These spots are always found in greatest abundance near the posterior pole; their primary form is round or oval; they rarely equal in size the optic disc, though by several running into one, they may occasionally appear to be much larger. Not unfrequently a great number of pale-reddish spots, which are probably caused by some change in the choroidal pigment, may be seen between them. At different stages of the disease different appearances are presented; the earliest, perhaps, being always the formation of black spots, which are really tubercles covered by black pigment. As the tubercle increases in size, the pigment disappears from its middle, so that there is the appearance of a black ring with a bright centre. The latter continues to increase, and the black ring disappears at places. The disease always begins, and is therefore most advanced, near the mascula lutea. Central vision suffers in a variable degree; peripheral not to any extent. The patients are generally moderately myopic; their most distant point of distinct vision being from seven to twenty inches. The progress of the case is usually very slow; occasionally, however, there are exacerbations. It was observed at various ages between seventeen and fifty-three; in eighteen cases both eyes were affected eleven times, one eye seven times; no connexion with any constitutional disease, such as syphilis, could be found. It appears probable that complete blindness is rarely induced; on the other hand the disease is dangerous because of its tendency to slowly advance, and thus to seriously affect central vision. Decided improvement may be effected by treatment, thus a patient, who could only read No. 16 of Jäger, became able to manage No. 2. Dr. Förster has found the bichloride in the dose of half to one grain daily to be the most efficient means. It must be steadily continued for six or eight weeks, and should only be abandoned, when no further improvement results, or when the stomatitis, diarrhœa, &c., become excessive. So long as the latter symptoms are not too severe, the medicine may be given in less doses, or stopped for a few days, and then recommenced. It is often well to combine it with quinine. Dr. Förster has administered with benefit to his patients from thirty-six to sixty grains. Where sublimate for some reason cannot be given, iodide of potassium may be administered in its place. This treatment should be strictly pursued; at least ten drachms must have been taken, before it is abandoned as useless.

Dr. Förster has also seen benefit from treatment with purgatives; such treatment must be continued for eight to twelve weeks, and at the same time the diet should be nutritious and easily digested. Dr. Förster would, however, only use this method in cases, where the two preceding means could not be employed.

There is a form of choroiditis, which occurs as a symptom of secondary syphilis—choroiditis disseminata. It is characterised by numerous, circumscribed, white spots on the choroid, which are surrounded by a red border. The parts around the posterior pole are the first attacked. The prognosis is favorable, for the white spots on the choroid are little exudations, which may be completely reabsorbed. Thus the perfect recovery, which may take place in this form, the readiness with which the disease yields to treatment, the absence of any ring of black pigment, the very different course, the causal conditions distinguish this disease sufficiently from choroiditis areolaris. It may be noted, that the grouping of the spots is quite different in the two diseases; the spots in choroiditis disseminata are less in size, often polygonal, and frequently arranged in groups, which appear to correspond to the intervascular spaces.

Glaucoma.

Mr. Bowman on glaucomatous affections and their treatment by iridectomy ('Brit. Med. Journ.,' 1862, ii, 377).—The invention of the ophthalmoscope forms an epoch in the history of ophthalmic science. "A glaring example of its value is to be found in its bearing on the subject of glaucomatous diseases, the name of which, indeed, is old, but the knowledge and the practice are all new. These diseases now begin to admit of accurate definition, of exact discrimination, and in many cases, of the most admirable cures; diseases which, six years ago, marched on unchecked to more or less rapid destruction of sight. And I do not scruple to say that, were the scientific knowledge of them, now possessed by a few, diffused universally among all the members of our profession, failure of sight from this cause in Great Britain would be to a considerable degree prevented, and total blindness would be rare indeed."

After tracing the progress of iridectomy in the treatment of glaucoma, the author points out that the *augmented tension of the eyeball* is the characteristic symptom, which chiefly concerns practitioners. It should be distinguished at the earliest stage, and towards its mitigation the treatment is to be directed. As a practitioner having to relieve disease, Mr. Bowman calls *all undue tension* of the eye *glaucomatous tension.* The object of treatment is to reduce this within natural limits; for if it continue, the result is inevitable, however delayed. Mr. Bowman has found it possible and practically useful to distinguish nine degrees of tension; and for convenience and accuracy in note-taking has designated them by special signs. The idea of inflammation must be dissociated from that of glaucoma and glaucomatous tension. Though often combined, and the combination then of the greatest importance, yet their coexistence is not essential to the presence of either; and as a matter of fact, they occur independently of each other every day. After describing three principal forms of glaucomatous disease—the slow non-inflammatory, the subacute, and acute inflammatory forms, Mr. Bowman writes that one of the most interesting cases "I have had is that of the coroner for a borough in Suffolk, a lawyer of middle age, who some two years ago, had acute glaucoma successively in the two eyes in the course of a few months. For each he came to consult me; for the first, after about four days; for the second, within the second day, each eye being at the time all but blind. I instantly in each case, performed iridectomy, and pursued no other treatment. The relief was immediate. The first eye regained an extended, though not a complete field of vision, the nasal side remaining blind, while with the axis of the retina he could read No. 4 of Jaeger (a small type). The second eye recovered perfect sight, and the amendment in both eyes continues, so that he has ever since uninterruptedly pursued all the duties of a very active professional life, and calls sometimes to express his gratitude—a gratitude I feel to be rather due, like that, I rejoice to say, of many hundred other sufferers in various countries, to von Graefe."

Table of twenty-five cases of syphilitic inflammation of the choroid and retina, &c. ('Med. Tim. and Gaz.,' 1862, i, 506): M. Foucart, case of glaucoma treated successfully by iridectomy, under M. Desmarres ('Gaz. d. Hôp.,' 1862, p. 106).

Retina.

So far as is known, separation of the retina is generally induced by affections of the choroid or vitreous. As an example of the value of treatment, Dr. Wecker ('Bull. de Thérap.,' 1862, p. 107, and 'Ann. d'Ocul.,' xlvii, 144) gives a case, which was treated by Heurteloup's artificial leech, with the effect of arresting the disease. M. B—, æt. 34, had lost, eighteen months previously, his left eye in the space of eight weeks, though treated by one of the most skilful oculists of Paris. When seen by Dr. Wecker, there was complete separation of the retina with cataract on the left side, and on the right side the same affection was found to extend over the outer and lower quarter of the globe, although the disease had only commenced in this eye the evening before; moreover there was a sclerotico-choroiditis of slight extent, a softened vitreous which contained flaky opacities, and great myopia. On the next evening, the separation had extended over nearly all the lower part of the globe. Two and a half cylinders (about two and a half ounces) of blood, were at once drawn by means of the artificial leech. Five times the leech had to be repeated; bichloride of mercury was administered internally. Three months later a seton was inserted in the neck. From the time of the first bleeding, no increase took place, and at a later period some diminution even was found in the amount of retina separated. For the preceding three months there had been no further change.

Dr. Alfred Graefe on ischæmia retinæ ('Arch. f. Ophth.,' viii, 1, p. 143).—Marie Koch, five and a half years old, the daughter of a surgeon, had always enjoyed the best of health up to the 9th December, 1860, on the evening of which day she went to bed perfectly well; she slept till seven the next morning, when she arose, and her mother perceived that she was blind. Six days later, she came under Dr. Graefe; the face and skin were pale, the mucous membranes very anæmic, the pulse very small and rapid, 160 beats in a minute. There was no congestion of the eyes, their tension was normal, the pupils much dilated and unaffected by light. Both the main trunks and the smaller branches of the central artery of the retina were extremely small. The retinal veins were much twisted, large, but unequally distended. The limits of the optic disc were a little indistinct. There was no perception of light, not even of that of the sun concentrated by a lens. Up to the 29th December, the pulse was generally from 140 to 150, and never below 136. No affection of the heart; no fever. Digitalis was employed for two days, but was then abandoned, as it caused vomiting; it had no effect on the pulse.

Before her admission, she had been treated antiphlogistically by bleeding, blisters, calomel, &c., but without effect. Dr. Graefe tried Heurteloup's artificial leech, but found no result from it either as to the condition of the eyes or as to the vision.

The diagnosis was very difficult; it was not an intracranial affection, such as a tumour, effusion of blood, or bursting of a cyst or abscess; for from these it was sufficiently distinguished by the paralysis affecting, and being restricted to, the two optic nerves, by the suddenness and completeness of the blindness, and by the absence of further cerebral symptoms. On the other hand, there were many reasons for attributing it to an obstruction of the circulation, and yet there were great difficulties in finding any cause for such obstruction; it could not be from the pressure of an intracranial tumour on the vessels, for the reasons already assigned; it could not be from embolism, for neither the causes of embolism, nor the effects produced by it were present, and besides, to affect both eyes, the embolus must have been located in the arch of the aorta, or two emboli must have been driven simultaneously forwards, one passing into each central artery of the retina. Thus the author found himself obliged to admit that the local conditions of the eyes themselves must furnish the reason for the stoppage of the arterial circulation, a stoppage so complete as to abolish the action of the retina. Considering the increasing danger, for the child had been already ten days without a trace of quantitative perception of light, and believing that the arterial anæmia of the retina was probably caused by some local condition, Dr. Graefe determined to produce mechanically congestion of the vessels by diminishing the tension of the globe. On the 19th December, he removed a large piece of the iris at the upper part on the right side, and freely evacuated the aqueous humour on the left side by paracentesis. Twenty hours later, both anterior chambers appeared to have regained their normal size; the pupils were very distinctly affected by light, and Graefe was delighted to find that she could not only readily distinguish light from darkness, but even follow the motions of a hand. On separately testing the eyes, the improvement was found to be restricted to the right eye, the one treated by iridectomy; the other eye remained in its amaurotic condition. On the following day the child was already able to count fingers at the distance of two feet; the readiness with which she found her way, and the quickness with which she fixed any object, proved that the visual field was of normal or almost normal size. As the left eye still remained in the same state, an iridectomy was performed also on it: it ran the same course as on the right side, thus she could distinctly perceive light with it on the following day. Vision became better with great, and almost equal rapidity on both sides. She was discharged on the fifteenth day after the operation on the second eye; she could then count without trouble and correctly, with either eye, a number of very small spots, placed at a distance of half a millimètre from one another. The field of vision was normal. The eyes were not examined with the ophthalmoscope before the third day after the second operation, when the arteries were found quite normal in size, and the veins presented scarcely any irregularity in course or fulness. Three months later there had been no recurrence and the vision was perfectly normal.

The effect of the treatment confirmed the diagnosis. Dr. Graefe compares this case with glaucoma, and notes that whilst in the latter, the pressure in the eye is increased, but that in the vessels is normal (hence the arterial pulsation), in the former the pressure in the eye was normal, but probably diminished in the vessels; thus possibly the impetus of the blood in the arteries was so little, that even a normal intra-ocular pressure was sufficient to stop it. The opinion, that the pressure of the blood in the arteries was diminished, is to some extent supported by the paleness of the face, the anæmic condition of the mucous membranes, and the rapidity of the pulse. Einbrodt has shown experimentally, that the arterial pressure diminishes as the rapidity of the pulse increases. It has also been shown by Bernard and Brown-Séquard that the arterial walls become actively contracted from irritation of the vasomotory nerves, but such a state would hardly have been relieved so rapidly by the treatment. The repletion of the veins was no doubt owing to the diminution in the *vis à tergo*, which was produced by the obstruction in the arterial circulation. A somewhat similar case, which came under Rothmund, is related in the 'Med. Times and Gaz.' (1862, i, 385).

Dr. Liebreich on retinitis leukæmica, and on embolism of the arteria centralis retinæ ('Med. Tim. and Gaz.,' 1862, i, 384).

Amaurosis.

Mr. Salter, case of amaurosis after acute abscess of the antrum ('Med.-Chir. Trans.,' xlv, 355): H. Noyes on amaurosis from injury of the supra-orbital nerve ('Amer. Med. Tim.,' 1862, i, 150, 184): Dr. Müller, case of hemiopia from a tumour on the sella turcica ('Arch. f. Ophth.,' viii, 1, p. 160): Dr. Seidel on visual affections in pneumonia ('Deuts. Klin.,' 1862, p. 269): M. Lecorché on diabetic amblyopia ('Gaz. Hebd.,' 1861, pp. 717, 749): Dr. Fikentscher, case of sudden and incurable amaurosis after hæmatemesis ('Arch. f. Ophth.,' viii, 1, p. 209): M. Gosselin on cod-liver oil in hemeralopia ('Gaz. d. Hôp.,' 1862, p. 330): Dr. Lee, case of hemiopia ('Amer. Med. Tim.,' 1862, i, 175).

EAR.

Dr. von Tröltsch, 'The Diseases of the Ear—their Diagnosis and Treatment,' pp. 12 and 262, Würzb., Stahel.

Dr. Jos. Gruber in Vienna has published a paper on the relations of otitis interna to inflammatory affections within the cranium ('Woch. d. Zeit. d. k. k. Gesells.,' 1862, pp. 172, 185, 193). He observed a case, in which a simple acute inflammation of the mucous membrane in the middle ear, without a trace of caries, excited inflammation of the lateral sinus, followed by pyæmia, pleuritis, and death. The lateral is far more frequently affected, than one of the petrosal sinuses, a circumstance dependent on the relations of the former to the mastoid cells. For the further examination of this subject, the author made a large number of dissections of individuals varying in age and sex. He found that in infants the cavity, which represents the cells of the mastoid process, is smoother, and almost resembles a continuation of the tympanic cavity backwards and inwards. As the mastoid process increases in size, its cellular structure becomes more complicated. Up to this time the partition between the lateral sinus and the mastoid cells, is thick and spongy; as, however, the cells are developed, the partition becomes continually thinner, and this continues up to the age of puberty. From this time to about the age of forty-five, the septum is extremely thin, in many cases even entirely absent in some places, so that the lateral sinus touches directly the mucous lining of the mastoid cells. As years increase beyond that period, the cells ossify more and more, and in old age the bony wall between the sinus and the cells is a line or more thick and composed of very dense tissue. It is clear that the ease, with which inflammation will spread from the cells of the mastoid process to the sinus, will depend on the thickness of the septum of bony tissue; and since the latter is the thinnest between the years of eighteen and forty-five, it will be at that period that inflammatory affections of the ear will be most dangerous. In early childhood otorrhœa is very common, and yet such extensions of the disease do not ensue, because the bony wall between the sinus and the mastoid cavities, although spongy, is of considerable thickness.

Dr. Voltolini has published a series of papers on the ear-surgery of the present day, in which he reviews the writings of Erhard, Toynbee, Kramer, Wilde, Rau, and Tröltsch ('Deuts. Klin.,' 1862, pp. 6, 17, &c.): Dr. Anderson, cases illustrative of diseases of the ear ('Glasg. Med. Journ.,' ix, 285, &c.): Dr. Politzer on the effects of variations of pressure in the tympanic cavity, &c. ('Wien. Med. Wochens.,' 1862, 197, 213): Dr. Triquet on buzzings in the ear ('Arch. Gén.,' 1862, i, 418): M. Duchenne on electricity in congenital deaf-dumbness ('Bull. de Thér.,' and Schmidt's 'Jahrb.,' cxiv, 252): Professor Hyrtl on the pathological anatomy of the ear ('Wien. Med. Wochens.,' 1862, 161): Dr. Voltolini, dissections of the deaf ('Arch. f. path. Anat.,' xxii, 110): Dr. Schwartze on affections of the ear in typhoid fever ('Deuts. Klin.,' 1861; and 'Gaz. Hebd.,' 1861, p. 838): cases of deafness with syphilis ('Med. Times and Gaz.,' 1861, ii, 530).

Membrana tympani.—Dr. Erhard ('Deuts. Klin.,' 1862, p. 92); A. Politzer, results of ocular examination ('Wochen. d. Zeit. d. k. k. Ges.,' 1862, p. 189), and on voluntary movements ('Wien. Med. Halle,' 1862, p. 168).

Tympanic cavity.—Dr. Gruber on catarrh ('Woch. d. Zeit. d. k. k. Ges.,' 1862, pp. 57, 70): Professor Schuh on foreign bodies ('Spit. Zeit.,' 1862, 254).

Internal ear.—M. Hillairet, reflex action of disease of the internal ear on the brain ('Gaz. d. Hôp.,' 1862, p. 25): Professor Griesinger on diseases of the brain from diseases of the internal ear ('Arch. f. Heilk.,' 1862, p. 437).

MOUTH.

Dr. T. Billroth on osteoplastic resections of the lower jaw ('Arch. f. Klin. Chir.,' ii, 651). As soon as Langenbeck had shown, that portions of the upper jaw could be sawn out and again healed in; and that such operations might occasionally be employed with great advantage for the purpose of gaining access to deeply situated parts, it was a simple matter to imagine a similar operation on the lower jaw for the purpose of removing tumours placed far back in the mouth and pharynx.

Case i.—P. C—, æt. 46, consulted Dr. Billroth in April, 1861, for an epithelial cancer of the floor of the mouth and under surface of the tongue; it had commenced in the frænum; the submaxillary glands were not enlarged. The patient's mouth was small, the jaw projected forwards, and the teeth were long and perfect. An incision was made along the lower margin of the jaw; the mouth was opened from below; and the tongue drawn out of the newly formed aperture: all the disease seemed to be removed, but the operation was long, tedious, and unsatisfactory. The wound was not entirely closed till the 22nd of June. In the beginning of September, the disease had already returned, and on the 21st of the same month the following operation was performed. Opposite the right lower canine tooth, an incision was carried through the lip, and down to a little below the edge of the jaw; a second and horizontal incision under the red border of the lip was carried to near the angle of the jaw on the left side, and then at right angles downwards to a little below the margin of the maxilla. The right canine tooth was now extracted, and the soft parts separated so far as to allow a section of the jaw with the chain saw; another section was made in the same way opposite the last molar tooth but one. The soft parts were now separated from the inner side of the jaw, so that it could be turned downwards, as on a hinge. The cavity was in this way largely exposed, and every portion of diseased tissue was removed with accuracy and safety; a number of small arteries were ligatured, and the jaw was then replaced. It was fixed in its position behind by two bone-sutures of platinum wire, in front by wire twisted round the teeth; the soft parts were united by metallic sutures; a gutta-percha splint, which had been carefully fitted beforehand, was then applied. The wire around the teeth did not hold well; six times it was replaced, till finally on the 26th October, a bone-suture was inserted also in front. On the 27th November, the patient left; the jaw had firmly united in front, but was still slightly moveable behind; no further disfigurement of the countenance than the cicatrices. According to a letter of the 5th February, 1862, the patient continues well; there has been no return of the disease.

Case 2.—J. S—, æt. 34 years, a very powerful man, was admitted into hospital on the 10th December, 1861, for a tumour of the neck, which had first made its appearance fourteen months previously. This swelling occupied the whole of the upper part of the neck on the left side, reached backwards to the ear, filled up the whole space under the jaw on the left side, and again made its appearance in the pharynx; the soft palate was partly ulcerated, partly pushed forwards; by means of the finger a part of the tumour could be felt attached to the side of the larynx. On the outer side of the tumour there was an ulceration of some depth, and of the size of a half-crown, with serous discharge. The swelling was as large as a child's head, and felt hard but elastic. Dr. Billroth represented to the man the great danger of an operation;—he made his will and determined to submit to it, provided the surgeon could see any possibility of recovery.

The tumour might be an epithelial cancer; it appeared, however, more like a sarcoma of the lymphatic glands. Billroth had learned from cases operated on by Langenbeck, and also from dissections on the subject that, in regard to the displacement of the more important parts in the neck by tumours, the pneumogastric generally remains near the carotid, but that the internal jugular vein is often pushed outwards, and thus entirely separated from the artery. Owing to the tumour penetrating deeply into the pharynx, it appeared indispensable to resect the jaw, and indeed to disarticulate it on the left side.—An incision was carried round the external ulceration, and prolonged upwards on to the cheek, somewhere about the anterior edge of the masseter muscle; another incision was then drawn backwards along the margin of the jaw to a little beyond its angle; the second molar tooth was extracted, and the jaw cleared at that part sufficiently to be sawn through; the soft parts were then separated from its inner surface, so far as to allow a kind of lateral dislocation; the jaw being turned round and held upwards,—for this purpose the pterygoid was entirely, but the temporal muscle only partially separated. By commencing at its lower part, the tumour was at first separated without much difficulty; near the angle of the jaw, however, both the external and internal carotids had to be ligatured, in addition to a number of smaller vessels. The pneumogastric nerve was sought for in vain; portions of the hypoglossal and gustatory nerves were necessarily removed, half of the velum palati was excised, and a part of the tumour carefully dissected from the larynx. When every portion of diseased tissue had been sought out and removed, the jaw was replaced in its proper position, a bone-suture inserted, and the patient removed to bed. On the next and the following day the patient could exercise considerable force with his jaw; it moved in a perfectly normal manner. On the third day death took place, with symptoms of acute pulmonary œdema; dissection showed that the pneumogastric ran through the tumour and that this portion of it had been excised. Numerous circumscribed pneumonic spots in the stage of red hepatization, just such as occur after section of the pneumogastric on an animal, were found in the lungs. The tumour was found to be a sarcoma of the lymphatic glands, in part, however, of a purely medullary nature.

It results from this case that just as free access to the deeper parts may be gained by such a temporary displacement of the jaw, as by its entire excision: the author is convinced that, if the patient had lived, the jaw would have united perfectly.*

Mr. C. H. Moore, observations on the division of the gustatory nerve, and on ligature of the lingual artery, in the treatment of cancer of the tongue ('Med.-Chir. Trans.,' xlv, 47). Very distressing are the symptoms, which often accompany this disease. There is the darting, electric pain in the tumour itself. There is the sensitiveness of the cancerous ulcer to all contact with the teeth or with matters taken into the mouth. There is the suffering due to the ceaseless movements of this muscular organ, and to those of the jaw, when the tongue is adherent to it. There is the anguish occasioned by the encroachment of the disease upon the nerves, and sometimes by their ulceration and exposure. The parotid region, that of the ear, the temple and the crown of the head, are sometimes as much complained of as the tongue itself, for the fifth nerve sympathises through many of its branches with the irritation of its gustatory portion. The glosso-pharyngeal and the sympathetic nerves have doubtless likewise their share of pain. At the same time the salivary glands, stimulated by the irritation of the fifth nerve, pour forth a copious and constant flow of saliva, which in some cases, amounts to two pints or more in twenty-four hours, and by the expectoration of which the other pains are aggravated. Added to all this, there is often a train of painful symptoms connected with suppurations in the primary tumour, and with the growth, adhesions, softening and ulceration of secondary glandular disease; besides the distress arising from the fetid state of the mouth, and the great and increasing debility of the patient. The greatest relief and ease may often be obtained by severing the gustatory nerve between the disease and the brain. No sensation can then be conveyed along it from the tumour; no reflected irritation can reach its collateral branches; no stimulus to an exaggerated secretion can be given to the salivary glands. A patient, on whom this operation has been performed, should be relieved of pain in the tongue in front of the fauces, as well as in the jaw, temple, and crown of the head; he should lose the incessant annoyance arising from the dribbling or expectoration of the saliva; should speak more freely, and swallow with less difficulty, should sleep better, and be better nourished than before. And, so far as the gustatory nerve alone is concerned in the disease, all this is usually and strictly the fact. The glosso-pharyngeal, however, cannot be relieved by this operation, except as indirectly its pain ceases to be made worse by the salivation and consequent movement of the tongue.

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* I may here remark that Mr. Guthrie proposed a very similar operation for the purpose of ligaturing the internal carotid ('Med. Times,' 1850, ii, 134).—T. W.

In the year 1850 Mr. Hilton published in the 'Guy's Hospital Reports' a case of cancer of the tongue, in the treatment of which he had divided the gustatory nerve on the side of the disease with great advantage. No other surgeon appears to have repeated this operation. Mr. Moore, however, having practised it himself for five cases of cancer of the tongue, has formed a high estimate of its value, and is convinced that much suffering would be temporarily alleviated, if the safety and facility of this method of relief were more generally known.

The feasibility of this plan for affording relief arises from the superficial position of the gustatory nerve. From the point at which it emerges from between the internal pterygoid muscle and the jaw to that at which it enters the tongue, the nerve is placed immediately beneath the mucous membrane of the mouth. In the hinder part of this submucous course it lies between the last molar tooth and the anterior pillar of the fauces; further forward it is beneath the floor of the mouth. Mr. Hilton, in his operation, sought for the nerve in the latter situation. The tongue being pressed away from the jaw, he made an incision along the mucous membrane thus exposed, found the nerve close to the sublingual gland, raised, and divided it. This operation is a sure one, inasmuch as the nerve is actually seen; but he describes it as rendered tedious by the bleeding; and it appears, further, to be inapplicable when the tongue is fixed to the jaw by adhesions of the tumour. There is a spot further back in the mouth in which also the nerve is within reach, and where it can be divided, even when the size of the tumour renders the operation in the floor of the mouth impracticable or inconvenient. The nerve, indeed, cannot be seen in the operation, but it may sometimes be felt, and can generally be easily reached.

The guide to the nerve in the latter situation is the last molar tooth. On passing the finger into the mouth within and beyond that tooth, the bulging alveolar ridge can be felt, narrowing as it ascends into the thin coronoid process. Behind, below, and parallel with the ridge, is the nerve. A line drawn inside the lower jaw, from the crown of the last molar tooth to the angle of the jaw would cross it at right angles about half an inch from the tooth. An incision, therefore, in the direction of such a line, three fourths of an inch in length, and carried through the mucous membrane to the inner surface of the bone, must divide the nerve. It is advisable to operate with a curved bistoury, since the alveolar ridge would shield the nerve from the edge of a straight knife. It is also advisable to be exact in observing the position of the alveolar ridge, or in its absence, the edge of the toothless gum curving up to the ramus. In one of Mr. Moore's earlier cases, in which there were no teeth to serve as a guide, he cut too far back, and missed the nerve, being probably misled by a mass of the tumour which was adherent to the inner side of the jaw.

The first case reported by Mr. Moore is as follows:—"A slender, pale, sallow, red-haired Scotchman came into the Middlesex Hospital under my care, late in June, 1861, for cancer of the tongue. The disease occupied almost the whole organ: a small portion of its tip was still healthy, but all else that was visible was a mass of hard tumour, partly ulcerated, partly covered with thin, dark-red, scar-like, mucous membrane, or with thick, tenacious mucus and epithelium. There was a deep, ulcerated hollow on the left side, about the middle, and behind this the posterior and left side of the tongue could be felt to be still unaffected.

"The poor fellow suffered severely. The pain, which had at first affected the left temple, had changed sides with the disease, and he now had much pain in the tongue and the right side of the jaw and temple, and a soreness of the whole crown of the head. He expectorated with difficulty about a pint and a half of saliva in twenty-four hours. He had scarcely any sleep, and took very little nourishment. Some cervical glands on both sides of the neck were hard, swollen, and tender.

"July 3rd, 1861.—I divided both gustatory nerves behind the last molar teeth, with a curved bistoury. For a few days he complained of soreness in the situation of the incisions, and he still had deep pain in the back of the tongue and throat; but with these exceptions he was instantly and in every way relieved. The flow of saliva was at once arrested. The pain in the head was completely gone. He took food with comparative ease, and was able to sleep; and it was interesting to observe that, as his general health and nutrition improved, the sallowness of his countenance, which had appeared to indicate the fabled cancerous cachexia, gave place to a look of health. His tongue was frequently examined, and it was found to be absolutely without feeling throughout the part supplied by the gustatory nerves. The dorsum and sides in front of the fauces were quite insensible even to a prick or a scratch which made the surface bleed. The patient himself spoke of the tongue as being quite benumbed and painless, and he moved it about without reserve in his efforts to speak. He was not entirely without pain, but his state for a month after the division of the nerves was very much more comfortable than before. He himself was quite decided as to the value of the treatment to him.

"August 15th.—The tongue is still insensible to touch, and to the taste, as well as the touch of sapid substances placed upon it. None of them appear to stimulate the salivary glands in the least. On one occasion since the operation, he has complained of pain in the crown of the head, but it soon passed away, and did not return. He is, however, in much pain at present from the disease in the root of the tongue, and from the advance of disease among the glands of the neck.

"During the last month of his life parts of the tongue sloughed, and hæmorrhages occurred from the ulcerated parts. The disease in the cervical glands grew rapidly, and suppurated. Salivation returned. Great weakness and cough came on. At length he became quite unable to swallow nourishment, and he died exhausted, September 13th.

"At the post-mortem examination very little of the tongue was found remaining. There were several nodules of apparently medullary cancer in the lungs, and gray hepatization of two thirds of the lower lobe on the right side. Both gustatory nerves were found to have been divided, and their extremities terminated in masses of dense lymph."

The division of the sensory nerve cannot supersede the operation for extirpating the disease. Whenever that plan can be adopted with a reasonable probability of success, it will continue to be resorted to for the sake of the more complete relief which it necessarily affords. Yet there is, perhaps, no example of cancer, in which the use of the knife or écraseur is more unsatisfactory than that in the tongue. A few months at most, sometimes weeks only, of ease are obtained, and the disease returns. And if the tumour be so extensive as to require the extirpation of the whole tongue with it, few operations, according to our present experience, are more fatal in their immediate issue. The division of the gustatories is a perfectly legitimate resource in some of the cases in which that severe operation may have been rejected. A partial extirpation of the tongue, on the other hand, being proper only when the disease is recent and can be completely isolated, will not interfere with the performance of the operation in question, which is adapted to a later stage, and only to certain symptoms of the disease.

It should be added, that the removal of nervous influence made no perceptible change in the nourishment or vitality of the tumour. It did not grow less, or slough more, than before.

In a single case, Mr. Moore has tied one of the lingual arteries; he found that the effect of this operation upon the tumour was much more decided, than that of dividing the nerve. The ulcer became at first paler, and the whole mass of the disease perceptibly shrank. The result, however, was not permanent, and after five weeks, the tumour began to grow again. Any eventual advantage, which may be expected to accrue from this operation is limited, therefore, to a diminution of the hæmorrhages, which often attend the later stages of the disease. Occasionally such treatment may be advisable; with lessened pain, after a division of the nerve, life may seem even to these patients more worth prolonging.

Cases of removal of the entire tongue by Mr. Nunneley ('Brit. Med. Journ.,' 1862, i, 21); and by Dr. King ('Med. Tim. and Gaz.,' 1862, ii, 128): A. Clark on aphtha figurata (ib., 1862, i, 34): E. Wagner, case of tuberculosis of the tongue ('Arch. d. Heilk.,' 1862, p. 571): Mr. Paget, case in which artificial teeth were lodged between the tongue and epiglottis ('Med. Tim. and Gaz.,' 1862, i, 58): Professor Esterle, case of anchylosis of the lower jaw cured by the formation of an artificial joint according to Rizzoli's method ('Ann. Univ.,' clxxvi, 570; or Schmidt's 'Jahrb.,' cxv, 334): case of Esmarch's operation for closure of the mouth from cicatrices, under Mr. Heath ('Lancet,' 1862, ii, 89): A. Wagner and others, on operations for immobility of the lower jaw ('Canstatt,' 1861, v, 274): Dr. Immisch on salivary calculi ('Deuts. Klin.,' 1861; or 'Med. Jahrb.,' 1862, ii, Anal. 37).

NARES.

Naso-pharyngeal Polypi.

We have already explained the manner, in which Langenbeck laid bare a tumour of the spheno-maxillary fossa, and shall now pass to a somewhat similar method, by which M. Huguier ('Gaz. d. Hôp.,' 1861, p. 337) removed a naso-pharyngeal polypus. A young man of twenty, was admitted into Beaujon with all the symptoms of such a growth on the left side; ala nasi and root of the nose distended by a reddish mass, the eye pushed forwards and upwards, the soft palate pressed downwards by a tumour which felt hard and firm to the finger. No air passed along that side of the nose. The voice had become markedly nasal; the respiration was difficult; he was obliged to sleep in a sitting posture. He had been fruitlessly submitted to various treatments and attempts at operation during the six years, which had elapsed since the beginning of the disease. On the 11th August, 1860, the following operation was performed:—1. The mouth being opened as much as possible, M. Huguier made a transverse incision through the base of the soft palate; then, by means of Belloc's sound, he passed through the nasal fossa on the left side, and through the aperture just mentioned, a thread, to the end of which was attached a little band. He intended to employ this band further on in the operation, with the view of dragging the left upper jaw, so as to turn it downwards and towards the right side.

2. An incision through the whole thickness of the cheek, was carried from the labial commissure on the left side to the anterior border of the masseter. A second incision commenced at the inner angle of the eye, passed down by the side of the nose, and ended in the middle of the upper lip. The facial artery was tied; the triangular flap was carefully separated and raised outwards.

3. The upper jaw was divided horizontally with the saw; this section commenced over the maxillary tuberosity, and ended over the floor of the nasal fossa.

4. The first incisor tooth on the right side was dislocated, and the hard palate notched with the saw on the left side of the septum.

5. The base of the pterygoid process was cut through with strong bone forceps. Thus the lower part of the upper jaw was detached from the other bones of the face, except towards the middle line, where it still adhered to them by the soft parts covering the two surfaces of the hard palate and the upper part of the alveolar process.

This part of the upper jaw was then dislocated downwards, and towards the right side, within the mouth, by means of a chisel used as a lever, and by traction with the band which had been passed along the floor of the nares in the beginning of the operation. Up to this period there had been scarcely any hæmorrhage.

The polypus could now be seen with ease; it was adhering extensively to the basilar process, to the back of the pharynx, and to the base of the left pterygoid process. It was removed by the gouge and strong scissors. Fearful hæmorrhage occurred—the patient was on the point of fainting, the pulse could hardly be felt, when the actual cautery was freely applied, and the bleeding stopped. The lower portion of the jaw was restored to its proper position with some difficulty; pieces of cork were inserted between the molar teeth, and the case was treated after the manner of a fractured maxilla. The wounds in the face were, of course, sutured.

In the after-treatment, it was found difficult to keep the jaw in its proper place. Ultimately firm union took place, and the wound in the palate perfectly cicatrized. The patient could masticate, swallow, and speak without the least difficulty.

J. Roux, of Toulon, has also proposed a new osteo-plastic method ('Gaz. d. Hôp.,' 1861, p. 354), for which he claims that it gives the freest possible access to the morbid growth, at the same time that it causes little disfigurement or subsequent inconvenience. According to him, the different preliminary operations for laying bare such tumours may be classed in the following manner.

1. Method by the mouth.—Incision of the soft palate, Manne; division of both soft and hard palate, Nélaton; Botrel's modification; division of the hard palate, A. Richard.

2. Method by the nose.—Incision and abduction of the nose, Garengeot; incision, abduction of the nose, removal of the nasal bones, of the septum, and of the turbinated bones, Chassaignac.

3. Method by the orbit.—Perforation of the lachrymal bone, Rampolla.

4. Method by the cheek.—Removal of the whole of the upper jaw, Syme, Flaubert; partial removal of the same bone, Maisonneuve; displacement *of a part* of the upper jaw, Langenbeck, Huguier; displacement of the *whole* upper jaw, J. Roux.

In the last method, the soft parts are divided, but no flaps are formed; the bones are cut through, but no portion of them is excised; both the soft parts and the bones are simply displaced in such a way that, when the operation is concluded, they may be restored to their natural position, and leave hardly perceptible cicatrices. With this design, we must—

1. Consider the malar and superior maxillary bones as one;
2. Incise the soft parts only at the points, which correspond to the attachments of these bones with those of the face and cranium;
3. Divide such attachments;
4. Dislocate the divided bones;
5. And, finally, after the complete removal of the polypus, approximate and maintain in contact both the soft and hard parts, which have thus been temporarily separated.

The operation may be divided into five stages, of which the first three may be performed under chloroform.

1. Division of the fronto-malar union.—Transverse incision, a centimetre long, through the soft parts over the orbital process; section of the bone with the chisel or chain-saw.

2. Division of the temporo-malar attachment.—Vertical incision, a centimetre long, over the zygomatic process; section of the bone as before.

3. Division of the orbito-nasal attachment.—Incision commencing at

the inner angle of the orbit, carried down the side of the nose and through the upper lip in the middle line, so as to separate the corresponding side of the nose. Section of the base of the ascending process and of the inner wall of the orbit, at the same level as the inferior angle of that cavity, by means of the chain-saw and chisel, or by the latter instrument alone.

4. Division of the pterygo-palatine articulation.—Section of both hard and soft parts with a chisel, which should be twenty centimetres long, and have a cutting edge, twenty-five millimetres broad. It should be applied directly behind the last molar tooth.

5. Division of the union between the two upper jaws.—Transverse incision, separating the soft from the hard palate on the side which corresponds to the upper jaw about to be displaced; removal of the first incisor tooth on the same side; section of the hard palate along the side of the median raphe by means of the chain-saw.

The bony attachments having been divided, a pair of flat and strong forceps is introduced between the two portions of the hard palate; the two upper jaws are then readily separated by slowly opening the forceps. The upper jaw, together with the external soft parts to which it adheres, is carried obliquely upwards and outwards towards the temporal fossa, so as to exercise no injurious pressure on the eye. Thus the incisor teeth of the two upper jaws may be separated to the extent of ten centimetres (nearly four inches). At its deeper part, further space might be gained by removing the vomer and cutting through the base of the pterygoid process. When the polypus has been removed, the parts may be readily replaced and kept in position by sutures passed through both the hard and soft parts. Such an operation may be performed in six minutes on the subject.

In the worst forms of naso-pharyngeal polypus, when the roots of the tumour pass in every direction, such an operation might be practised on both sides of the face.

Professor Sédillot proposes a plan resembling that of Nélaton, except that he carefully preserves the periosteum ('Gaz. de Strasb.,' 1862, 2; and Schmidt's 'Jahrb.,' cxv, 233).

M. Demarquay removed the nasal process of the upper jaw and the whole external wall of the antrum; the periosteum had been carefully dissected back. The polypus was extracted and the wound closed; the bone reformed. ('Gaz. Hebd.,' 1862, p. 554.)

Dr. Opitz, general review of recent essays on the treatment of naso-pharyngeal polypi (Schmidt's 'Jahrb.,' cxv, 219): Prof. Bryk, cases treated by the galvano-caustic ('Wien. Med. Halle,' 1862, p. 223, &c.). In one of these cases rhinoscopic examination was of use.

Nares.

Dr. Macnamara on epistaxis ('Dub. Quart. Journ.,' xxxiii, 28): Dr. Voltolini, 'Rhinoscopy and Pharyngoscopy,' pp. 44 (Breslau, Gosohorsky): Dr. Semeleder, 'Rhinoscopy and its Value in Medical Practice,' 8vo, p. 66, (Leipzig, Engelmann).

PALATE—PHARYNX—ŒSOPHAGUS.

M. Nélaton, clinical lecture on a tumour of the fauces ('Gaz. d. Hôp.,' 1862, p. 117).—"I intend to speak to you about an affection of the isthmus of the fauces, occurring in a young man, aged twenty-seven, whose external appearance presents every sign of good health and of the complete absence of any constitutional affection. His account of the disease is very meagre, yet given with a clearness that leaves no room for doubt. Three months ago, he felt a small lump in the pharynx, which, however, did not cause any inconvenience either in swallowing or breathing. A month later, he perceived a tumour in the isthmus of the fauces; it increased rapidly in size, and in a short time had reached a very considerable bulk. The extreme difficulty, that it occasioned in his breathing, obliged him to enter the hospital.

"So far as can be ascertained by opening the mouth to its fullest extent, the tumour commences on a level with the posterior edge of the hard palate, and occupies all the left part of the soft palate, pressing the uvula completely to the right, and forcing it against the last molar tooth of the same side. This swelling is covered by the tissue of the soft palate, which is highly distended, red, and ulcerated at two points.

"The finger passed behind the base of the tongue cannot precisely distinguish the lower limits of the disease; we perceive perfectly that the tumour descends into the pharynx, attached to the left side, and extends too far down for its termination to be exactly determined. This lower and deeper part of the tumour does not present the same sensation to the touch or the same aspect to the eye, as the portion situated in the palate: whilst the latter is very regular, smooth, arched, and presents a uniform surface, the lower portion, on the contrary, is unequal, rugose, and jagged, suggesting the idea of hard tubercles, of irregular vegetations, of a slightly cartilaginous consistence.

"Let us consider, from whence this tumour springs, and what are its relations to the surrounding parts, especially in regard to its treatment by operation. Has it arisen from the inferior surface of the basilar process, as is so often the case with naso-pharyngeal polypi? The slightest examination proves the contrary; the nasal fossæ are quite free, the tumour does not proceed from their cavity. Does it come from the left pterygoid process, which bounds on the outer side, as you know, the posterior aperture of the nasal fossæ? I believe not. The tumour does not appear to be connected with the hard palate; it is separate, and seems to be pressed upon that part, but not to be attached to it. I will explain how I have made this diagnosis. It is not enough to press the tumour with the finger and to try to move it, for it touches the vertebral column and cannot be moved from before backwards, though it can be displaced from below upwards; but if when the patient's mouth is open, the lobe of the tumour, which is felt externally in the submaxillary region, is moved, the motion is communicated to the tumour of the throat, which changes its position slightly in the same direction, a circumstance which shows that it has no connexion with the surrounding bones. By causing the patient to elevate and depress the lower jaw, and placing one finger on the tumour, we can satisfy ourselves that it does not adhere to the lower jaw, but simply slides over its surface.

"The functional symptoms are extreme difficulty in breathing and swallowing; as the tumour almost closes the isthmus of the fauces, only liquids can pass. There is also a very manifest alteration in the voice.

These latter phenomena are serious symptoms, which daily assume more alarming proportions, because the disease has developed with great rapidity. I am inclined to think that in the twenty-four hours, during which the patient has been in the wards, the tumour has a little increased; perhaps this increased swelling may be ascribed to the pressure and irritation of its surface. Evidently the man is suffering from a disease that demands immediate action. What is the nature of the tumour?

"The diagnosis presents some difficulty. We have already rejected the idea of a naso-pharyngeal polypus. Two days ago, when I saw the patient for the first time, the diagnosis that occurred to me, was that of a tumour formed by glandular hypertrophy in the soft palate; in 1847 I succeeded in proving the existence of such tumours at the hospital of St. Antoine. The soft palate, which forms the continuation of the hard palate, is itself composed of several layers; besides the mucous membrane covering it, both in front and behind, it has aponeurotic and glandular layers. The glandular layer is very developed, especially in front, where its thickness may be from four to five millimetres near the posterior border of the hard palate. If we suppose that one or more of these small glands become developed, we have a tumour formed by glandular hypertrophy; such a tumour presents these characters:—it is contained in a perfectly separate compartment, it is circumscribed, distinctly limited, spheroidal, and only very slightly connected with the adjacent parts, so that when its capsule is incised it may easily be enucleated with the finger.

"This diagnosis was the first that suggested itself, yet there were some circumstances which threw a little doubt on it. In fact, the tumour of our patient is considerably harder than a glandular hypertrophy, its consistence is slightly fibrous. Tumours from hypertrophy are generally regular, here it is regular on only the upper part; such a condition is not found lower down, and the finger introduced to a sufficient depth feels hard and irregular tubercles; yet it is not impossible that this irregularity is only simulated by an exceptional condition due to the relations of the tumour with the tonsil of the left side. The tonsil, indeed, indurated and tuberculated, may be resting upon the surface of the tumour and thus be pressed inwards. Another consideration, which at first sight appears to prevent our laying down the diagnosis of hypertrophy, is the time that the tumour has been in reaching its present size. Our patient asserts that it has existed for scarcely two or three months; and up to the present time the tumours from hypertrophy, that I have had the opportunity of observing, have run a chronic course and been five, eight, ten, fourteen years in developing. Lastly the mode of development is not quite that observed in those tumours; they begin in the soft palate,—the one, we are considering, has, according to the patient's account, on the contrary, progressed from below upwards. Notwithstanding the facts I have just cited, and which, at first sight, might lead us away from belief in a hypertrophy, we must not come to any decided negative conclusion, for the history of these tumours is, in one sense, a thing only of yesterday, and it is certainly not impossible, but that we may meet with them presenting essential modifications in their characters. May not some of these tumours manifest a hardness, which until now has never been perceived? May not some grow upwards, and more rapidly than others? Observation has not yet satisfied us on all these points. One particular in the case of our patient favours the hypothesis of glandular hypertrophy; the surgeon, who was consulted in the city, made an exploratory puncture, and saw a stringy, viscous liquid, something like the white of an egg, escape from the tumour.

"Whatever it may be, this young man is positively in danger. He is in risk of being suffocated, and in a very short time; so that it is imperatively necessary to act as quickly as possible, and not to abandon the idea of a glandular, or in other words, of a tumour that can be enucleated. If enucleation proves easy, the operation is simple, and merely consists of an incision in the soft palate, a separation of the edges of the wound, and a detachment of the walls of the tumour, at the same time that it is drawn out by means of hooks. If, however, it is adherent and cannot be enucleated, the operation must be attended with very great difficulty, especially if we are obliged to incise the tissues near such vessels, as the internal carotid artery and the great jugular vein. Besides important veins may be dragged into contact with the bistoury, in consequence of the traction necessarily made on the surrounding parts. In this slow and delicate operation, the knife should, as far as possible, act upon the tumour alone."

Operation.—A vertical incision, carried over that portion of the tumour which occupied the soft palate, allowed the finger to be passed completely round that portion, which was sufficiently isolated. A first half, six or seven centimetres long, was thus removed; it presented a lobulated exterior, and on tearing, a granular appearance internally, a circumstance which caused its immediate recognition as a glandular hypertrophy. Certain adhering portions of the tumour were torn away; others, deeper and seated on the left lateral surface of the pharynx, were left, from the impossibility of rendering the removal complete with the knife. The patient lost very little blood, and immediately after the operation he had less difficulty in breathing; his voice also became clearer and more distinct. The tumour was taken to M. Robin, who recognised it as a glandular hypertrophy of the nature of the tonsil. He found that it contained hypertrophied *culs-de-sac* and others of recent formation, nucleated epithelium, and fibro-plastic tissue in small quantity. Two days were allowed to elapse, in order to leave time for the flow of blood, which is indeed very slight, to cease; and on the 21st of February, a first cauterization was made with the electric cautery (galvano-caustic), liquid and solid caustics not being adapted to the present case. The patient supported this first cauterization well, and after three days it was repeated in order to destroy the deep-seated roots of the disease.

Uranoplasty.—The remarkable paper by Professor Langenbeck has had the effect of calling greater attention to this important subject; during the last year Professor Langenbeck has recorded two more successful cases ('Deuts. Klin.,' 1862, pp. 1, 68, 143): Professors Billroth and Weber have operated after the same manner successfully on infants ('Arch. f. Klin. Chir., ii, 657; 'Med. Times and Gaz.,' 1862, i, 463): a translation of Langenbeck's paper has appeared in the 'Arch. Gén.,' (1862, i, 271, 567, 709): in England the question of priority has been specially agitated (Mr. Hulke, 'Med. Times and Gaz.,' 1861, ii, 213, 592; 1862, i, 91: Anon., ib., 1861, ii, 537: Professor Langenbeck, ib., 1862, i, 44: Mr. Field, ib., 57, 78: Mr. Pollock, ib., 144).

Dr. Kade has published the following case of congenital fissure of the hard palate on the left side, accompanied by cleft soft palate and harelip on the same side:—Uranoplasty and staphyloraphy, operation for harelip, perfect cure ('St. Petersb. Med. Zeits.,' iii, 19).—A peasant, Iwan Dmitrjeff, seventeen years old, was admitted into hospital on the 20th of December, 1861. His speech was nasal and very unintelligible; swallowing difficult, for fluids generally passed into the nares; and solid portions were taken down with trouble. The soft palate was split into two symmetrical halves; it was very imperfectly developed; the greatest distance between these portions was two centimetres. The fissure of the hard palate reached to the alveolar process; it diminished in size as it advanced forwards, and terminated opposite the middle incisor tooth on the left side. The palate process on the right side deviated from the horizontal direction, as it approached the fissure, and finally ascending almost vertically, became continuous with the vomer; the palate process on the left side was quite horizontal to its termination at the fissure. The greatest breadth of the fissure in the hard palate, on a level with the horizontal process of the palate-bone, was one centimetre. The whole length of the fissure from the incisor tooth to the uvula, amounted to twenty-eight millimetres; that of the hard palate was twelve millimetres long, and therefore that of the soft palate was sixteen millimetres in length. Both the teeth and the alveolar process were perfectly normal. The lip was divided on the left side by a fissure, which reached into the left nasal cavity.

"*Operation*, 9th January, 1862.—The patient was placed on a stool, with his head thrown as much as possible backwards. In performing this operation, I followed almost entirely the directions of Langenbeck; it thus consisted of—

"1. Paring the edges of the fissure.—As it is of the greatest importance that this should be done with accuracy and not be impeded by the bleeding, the knife should decidedly advance from behind forwards (from below upwards). In fixing and rendering the parts tense, the tip of the uvula should be seized with hooked forceps; the knife should then be passed about two millimetres from the edge of the fissure and close before the forceps, passing through the soft palate from before backwards and a little obliquely from without inwards; the edge may then be pared by long, saw-like motions of the knife, as far as the posterior case of the hard palate. The top of the uvula may be pared finally with the scissors.

"It is more easy to pare the edges of the hard palate: for this purpose I have found it most convenient to stand behind the patient, and to fix his head against my breast. I also use the same position for making the lateral incisions and for separating the soft parts from the bone. The knife should be steadily carried from behind forwards, cutting the mucous membrane and periosteum down to the bone at a distance of two millimetres from the fissure.

"2. I now make *the lateral incisions*, and thus deviate from Langenbeck, who divides in this stage the muscles of the soft palate. I prefer leaving the myotomy to a later period, as by so doing, I finish all about the hard palate at one time, whilst the patient is in the most favorable position, and also because the section of the muscles causes so much pain and bleeding, that we are generally obliged to interrupt the operation for a considerable time. It depends on the form and extent of the fissure, whether an incision should be made on only one or on both sides. If, as in the present case, the fissure is not very wide, and the osseous processes are tolerably developed, it is sufficient to make an incision on the side where the palate is not united with the vomer. Accordingly I carried an incision on the left side along the inner surface of the roots of the teeth, commencing behind the last molar, and ending opposite the canine tooth, so that between the anterior end of the lateral incision and the corresponding part of the fissure there remained an undivided portion of the breadth of one centimetre. This lateral incision passed through mucous membrane and periosteum down to the bone.

"3. Separation of the soft parts from the bone.—On the right side we commence from the margin of the fissure, on the left from the lateral incision. The raspatorium is placed in the incision firmly against the bone, so that both periosteum and mucous membrane may be separated. As soon as this is done at one point to an extent equal to the width of the instrument, it is replaced by an elevator, and thus by slow, lever-like movements, the whole of the soft parts are separated at first forwards and then backwards. The mucous membrane, which covers the posterior surface of the soft palate, is now divided from the posterior margin of the palate-bone by a scalpel, as far as the hamular process. In this way we obtain two flaps of the same breadth as the palate processes from which they have been separated; anteriorly they are continuous with one another and with the alveolar process, posteriorly with the soft palate. I have found that on the subject it is more easy to separate both periosteum and mucous membrane, than the latter alone; accordingly it is probable that such a method has been unconsciously and unintentionally followed in England.

"4. Passage of the sutures.—I decidedly prefer Langenbeck's instrument for this purpose to any other, and also perfectly agree with him that silk threads are better than silver or wire, because of their easier introduction and removal. The sutures should be introduced from before backwards, at the distance of two or three millimetres from each other; in the present case nine were quite sufficient, five for the hard, and four for the soft palate.

"5. Section of the muscles.—Langenbeck recommends an incision through the palate near the hamular process, closely resembling that employed by Sédillot. I am decidedly of opinion that not only that incision for the division of the levator and circumflexus should be made, but also that each pillar of the palate should be separately divided. It is principally owing to the neglect of this point, that I ascribe the absence of union in the soft palate after the first operation in the present case. I fully satisfied myself in the second staphyloraphy, that the palate was very incompletely relaxed by the incision recommended by Langenbeck; as soon, however, as both pillars had been freely divided by the scissors, the relaxation became complete.

"The patient should now rest for some time; the sutures may then be knotted in the same order that they were introduced (from before backwards). In the present case the edges of the fissure were most easily approximated and without any apparent tension.

"Rather severe fever and some erysipelas of the face ensued; the soft palate became very red and swollen; some of the sutures cut their way out, and the rest were removed on the 14th. The ultimate result, on the 1st of February, was that the fissure in the hard palate was firmly closed; a little of the anterior part of the soft palate had united, and the rest had diminished in width by one half: the lateral incision and that in the soft palate had cicatrized.

"On the 11th February, staphyloraphy was again performed: after carefully paring the edges, five silk sutures were introduced. Not only did I make an incision at the inner side of the hamular process, but I also divided on each side the anterior and posterior pillars. Scarcely any reaction followed the operation, the sutures were removed in five days, and in ten days the lateral incisions had cicatrized, and union was perfect. On the 1st of March, the harelip was operated; and on the 31st of the same month, the patient was presented to the Medical Society. By the use of a needle, newly formed bone could be proved to exist in every part of the former fissure of the hard palate. The speech had become much clearer, though still very guttural. He can swallow both solids and fluids without the least difficulty."

A case of great hypertrophy of the *tonsil* is reported from St. Bartholomew's Hospital ('Lancet,' 1861, ii, 372). A stout, agricultural labourer, forty years of age, but with the look of a man of fifty-five, was admitted in the month of June last for enlargement of the right tonsil. It caused some inconvenience, but was not then of unusual dimensions, and was excised by the tonsillotome. The man got well, and returned to his home in the country. About the end of September, he re-entered the hospital affected with dyspnœa, dysphagia, and partial aphonia. On examining the throat, the entire back part of the mouth was filled by a large tumour, which seemed wholly to obstruct the passage downwards either into the œsophagus or larynx. It was readily made out to be the right tonsil, the one that had previously been enlarged. As the man's life was actually in danger from suffocation, Mr. Lawrence determined to remove the tumour, and he was brought into the operating theatre for the purpose on the 12th instant. As it was quite impossible to apply the tonsillotome, and as the risk of hæmorrhage was very great, by the employment of the knife, a preference was given to the écraseur. This was applied with a little management around the tumour, the chain encircling its base close to the wall of the pharynx; it was gradually tightened, and in the course of a quarter of an hour the growth was wholly detached. No hæmorrhage whatever occurred, and the relief to the poor man was immediate and decisive. During the operation, which was done without chloroform, he sat in a chair, and had occasional attacks of dyspnœa with frequent attempts to vomit. He loudly expressed his gratitude for being thus effectually relieved.

The tumour was of the size of a hen's egg, but had shrunk a little on removal. It was lobulated, not hard, and on section presented the characters of simple hypertrophy of the true glandular structure, without any evidence of malignancy. There were no deposits of fibrin, and there was nothing in the patient's history to show that it was even the result of inflammation. The man is progressing without an untoward symptom, and will shortly leave the hospital. From a further account of this case in Mr. Lawrence's 'Lectures on Surgery,' p. 611 (Lond., 1863), it appears that there afterwards formed in the neck a large tumour, which appeared to be glandular, and was considered malignant.

CHEST.

Dr. Banks on paracentesis and the employment of the drainage-tube in empyema ('Dub. Quart. Journ.,' xxxiii, 356), states, that if he should have occasion again to perform this operation, he would proceed in the following manner:—A direct opening being made into the pleura in front, with a bistoury, the catheter would be introduced; the cavity could then be rapidly explored, and the position of the upper surface of the diaphragm determined. Guided along the surface of the diaphragm, the catheter would thus be directed towards the outer and lower part of the chest, and the point made to press against an intercostal interval, as near the diaphragm as possible, so as to be felt from without. A "Brodie's catheter" being furnished with a broad flat handle, would admit of this very essential part of the proceeding being done with great facility. The counter-opening would then be made by cutting on the point of the catheter sufficiently to allow it to be pushed through the wound. The drainage-tube being attached by a silk thread to the eyes of the catheter, on withdrawing the latter, one end of the tube would be carried after it into the pleura, and out at the opening which was first made.

Cases of empyema treated by the drainage-tube under Dr. Fincham, Dr. Farre ('Lancet,' 1862, i, 571, ii, 229; 'Med. Times and Gaz.,' 1862, i, 349): Dr. Thorp on thoracentesis ('Dub. Quart. Journ.,' xxxiv, 1): M. Bouchut on dry tapping, which, he considers, may occasionally result from the whole of the exudation coagulating, and forming a gelatinous mass ('Gaz. d. Hôp.,' 1862, 453).

ABDOMEN.

Professor Oppolzer, who has paid special attention for many years to abdominal tumours, has published some papers on their diagnosis, from which we extract the following remarks on those of the abdominal wall ('Wien. Med. Wochens.,' 1862, i, 17, 49, &c.). Swellings of the belly, which are caused by intraperitoneal tumours, become smaller at each inspiration, because the abdominal wall is thrown forwards, and thus carried away from them; those that move with the diaphragm, also pass at the same time somewhat downwards; whilst swellings, which are caused by tumours in the parietes, move directly from behind forwards. Tumours of the wall vary in mobility, according to the relaxation or tension of the abdominal muscles; those, which are subcutaneous, continue moveable, when the muscles are contracted, whilst those, which are attached to the fascia, or which are seated in or behind the muscles, become more or less fixed.

The first questions to be decided in the diagnosis are: whether the tumour is in the wall, or within the peritoneal cavity; and in the former case, whether it is in front of the muscles, in, or behind them. It must be admitted of any tumour, that it is seated in the parietes, when it moves with them *en masse*, when it follows all their motions whether caused by respiration, pressure, or traction with the finger, when it is circumscribed, and when the finger can be pressed under it, so as to measure its thickness. On the other hand, every tumour must be considered to be unconnected with the abdominal wall, when the latter can be freely moved over it, when the integument presents no change and can be raised in folds, and when a deep inspiration renders it less distinct. It is true, that difficult cases occur, in which tumours of the internal organs are adherent to the parietes, and conversely. In many of these cases some assistance may be afforded by percussion; where the adhesions are limited in extent, the abdominal wall is separated during inspiration from the rest of the tumour by a space, which becomes filled with intestine, and thus the area of the dull sound is diminished.

The second question, the position of the tumour in regard to the muscles, may be decided in the following manner. Tumours, which are placed in front of the muscles, become more prominent, when the latter actively contract: those, which are situated in the muscular connective tissue, or which have caused atrophy of the muscular fibres, are unaltered by contraction of the abdominal muscles: those which are seated behind the muscles, are pressed backwards on each contraction, and thus become flattened and less distinct.

We occasionally meet with abscesses in the abdominal wall, which are symptomatic of some more distant lesion, generally of caries of a rib: we should accordingly in these cases always carefully examine the thoracic wall, because such carious affections are often attended by so slight symptoms, that it is only on examination, that signs of disease are found at some small and circumscribed spot. The firm union, however, of the layers of fascia in the middle line prevents the pus burrowing to the opposite side of the abdomen, and thus the rib-affection and the abscess are always on the same side of the body. In many cases of retro-muscular abscess, the muscles become atrophied or displaced; a few fibres may, however, remain, and when they contract, cause furrows in the soft and yielding swelling. Abscess in the abdominal wall may also depend on some internal disease, such as inflammation of the liver or spleen. Complications of this kind are distinguished by the presence of symptoms of the internal affection, by the abdominal parietes being fixed at the point of swelling, by the latter evidently passing deeply, and by its being continuous with some internal organ; the latter point may be proved by palpation and by percussion, which gives a constant dulness over a larger space, than that occupied by the abscess.

New formations are, on the whole, not rare, and deserve consideration by the practitioner, both in respect to their diagnosis, and their treatment by operation; they are most frequently located in the subcutaneous cellular tissue. The most common are fatty tumours, which are characterised by their usual symptoms. Cavernous tumours are rare. Sarcomata occur, either in the form of fibro-cellular, or in that of firm fibrous tumours; they are always distinctly circumscribed, have a smooth or nodulated surface, and possess little elasticity. We have never observed a cystosarcoma in this part. Among the malignant tumours we have cases of medullary carcinoma, and not unfrequently in the form of melanosis; such cancer often proceeds from the subserous, as well as the subcutaneous cellular tissue, and also from the lymphatic glands in the inguinal region: it occasionally occurs in the form of an infiltration, especially in the subserous tissue, and as a secondary product. According to some authors, hydatid cysts occur in the abdominal wall, a circumstance which is at all events very rare, for as yet we have met with no decided case.

Dr. M. B. Freund, account of an extraordinary case of abscess in the sheath of the rectus, with an essay on abscess of the abdominal walls (Betschler and Freund, 'Clinical Contributions to Gynæcology,' 1st part, p. 140, Breslau, 1862): Prof. Billroth, cases of abscess in the subperitoneal cellular tissue of the groin ('Beob. über Wundf.,' p. 65).

Dr. Toca, case of enterotomy for the removal of an intestinal calculus, which weighed twenty-one ounces—death nine days after the operation ('Siglio med. and Med.-Chir. Runds.,' 1862, ii, 39).

Abscess in the Iliac Fossa.

M. Colin has recorded several cases; some of which were situated in the subperitoneal cellular tissue, some under the fascia. The characteristic symptoms in the latter or sub-aponeurotic variety, which generally passes by the name of psoas abscess, are:—the absence of any anterior projection (which is so marked in subperitoneal phlegmon); the flattened form of the deep engorgement in the iliac region; the symptoms furnished by the position of the thigh, which is flexed and turned inwards, whilst its extension, abduction and rotation outwards are impossible; the pains in the loin and thigh along the crural nerve. Other symptoms are pain in the iliac fossa on deep pressure; violent pain in the lumbar region on the slightest motion of the thigh; œdema of the ankle; slight jaundice; constipation; loss of appetite; headache; sleeplessness; hot skin; dry tongue; rapid pulse; rigors; sudamina; and ultimately a general typhoid appearance.

In one case ('Gaz. d. Hop.,' 1861, p. 606) the abscess was opened with the bistoury above the crest of the ilium, just to the outer side of the sacro-lumbalis muscle; the recovery was perfect.

A second case of psoas abscess was the following ('Gaz. d. Hop.,' 1862, p. 261):—A soldier, of a moderately good constitution, and whose health had always been good, felt a sharp pain in the lumbar region, during a sudden movement in gymnastics on the 10th of January; he was, however, able to return on foot to the barracks. On the next and following days, he performed his ordinary duty, feeling nothing in the affected parts but a vague sensation of uneasiness, accompanied occasionally with darting pains, until on the 19th of the same month, having just returned from a parade, he was suddenly seized with pain so severe, that his comrades were obliged to undress him and put him to bed: the pain was, from this time, so much aggravated by the slightest movement of the right lower limb, that the patient was obliged to remain in a state of almost absolute immobility. At the same time some signs of gastric derangement, headache, loss of appetite, and constipation appeared. On the 5th February, he was admitted into Val-de-Grâce; and on the next morning the following symptoms were found:—constant, severe pain in the lumbar region, radiating spontaneously, or on the slightest movement, towards the inner side of the right thigh; the latter flexed on the pelvis to a right angle; volume and resonance of the abdomen normal; pressure upon any part of the belly causes pain in the right loin; the suffering is intolerable on compression with the two hands, one being placed behind the sacro-spinal muscles, the other on the anterior wall of the abdomen; palpation performed in this way does not show any swelling or engorgement. Complete absence of fever, complexion bilious, tongue whitish. He was ordered fifteen leeches, and a hip-bath.

Next day the leeches were repeated, and the baths were ordered to be continued daily; the pain diminished a little; the crest of the ilium was noticed to be gradually approaching towards the right hypochondrium, so that the trunk was bent laterally; this attitude, together with the position of the thigh, impressed upon all the movements of the patient in locomotion a peculiar character, such as is habitually observed in psoas abscess. The pain having diminished, some engorgement was recognised deep behind the intestines in the right loin. Sixteen days later, on the 22nd of February, without any apparent reason, nausea and swelling of the belly occurred; they, however, disappeared again during the night, after numerous eructations. The same symptoms recurred on the 24th, and continued throughout the night; at the visit next day, we found considerable tympanitis, dyspnœa, a slightly jaundiced tint of the whole of the body, and increased sensibility of the abdomen. From this time the constipation was more obstinate; the patient frequently regurgitated slimy matters; there were occasional slight shiverings. From the 24th of February to the 15th of March, the patient remained in much the same state; he became, however, much weaker, and as much from this reason as on account of the lumbar pain, he remained constantly in bed. During the whole of this time, a daily and very careful examination did not detect the presence of any tumour, either above the crest of the ilium, or below the crural arch; methodical and cautious palpation merely showed the persistence of engorgement deep in the iliac fossa. On the 15th of March, after the administration of a purgative enema, there were pretty severe colicky pains in the abdomen and several copious light-coloured motions, the last of which were almost exclusively composed of pus; the evacuations presented this character for several days, the appetite and sleep gradually returned, and at the same time the lumbar pain decidedly diminished. After the 20th, the patient walked more easily than he had been able to do since the beginning of his illness. On the 25th the pain had abated so much, that it was scarcely recalled by pressing the loin from behind forwards, between the two hands,—a mode of examination, which proved the absence of all engorgement, of all abnormal resistance. The gastric symptoms and the constipation entirely subsided; and the patient was discharged on the 29th, walking erect and easily, although there was still a considerable approximation between the right iliac crest and the false ribs. The sub-aponeurotic seat of the abscess was well indicated in this case by the following circumstances:—1st, the commencement of the complaint in a sudden and violent movement; 2nd, the absence of projection or of dulness on percussion in the anterior part of the abdomen; 3rd, the flattened form and deep seat of the engorgement; 4th, the position and pain of the thigh; 5th, the absence, during two months, of every sign of affection of the intestine or the peritoneum, which react so rapidly in the case of abscess within or under the peritoneum. The commencement of the disease was insidious and its progress slow. The purulent collection discharged itself by the intestines, —a mode of termination, which is generally favorable in the case of iliac abscesses, but, from anatomical reasons, of unfrequent occurrence in the sub-aponeurotic variety. The tympanitis, the constipation, the jaundice, and the nausea indicated the extension of the abscess towards the intestine; and perhaps to the purgative, which was followed by the discharge of pus, should be attributed the honour of the success. The rapidity and permanency of the cure showed, no doubt, that the intestinal perforation, contrary to what usually happens, was sufficiently large and direct in this case. The free and abundant discharge of pus is of such importance, that, if any external swelling had appeared, there would have been no doubt as to the propriety of making another opening with the bistoury even at the time, when evacuation by the intestine was taking place.

The next case is an example of the subperitoneal phlegmon ('Gaz. d. Hop.,' 1862, p. 57):—A soldier, æt. 22, of delicate constitution, was admitted into Val-de-Grâce on the 23rd December, 1861. On the previous evening, he had complained to his regimental surgeon about dull pains all over the abdomen, which he attributed to exposure to cold. Both the pain and the general symptoms became continually worse, so that on the 24th December the symptoms resembled those of acute peritonitis: face anxious and drawn, extremities cold, pulse thread-like, thigh flexed on the abdomen, dysuria, constipation, nausea, but no vomiting. Throughout the night, the patient screamed for pain; the extreme sensibility of the abdomen prevented any examination; twenty leeches had been applied on the preceding evening, and he was now ordered thirty more; an ether-draught and some opium were also prescribed. On the 25th, the pains had become more localised in the right iliac fossa; the general condition was very much improved; the skin soft and moist; the pulse fuller;—he was ordered fifteen leeches, opium, and a hip-bath. December 26th: the patient has had some bilious vomiting; he is better, and has some appetite; mercurial inunction, hip-bath. December 27th: very gentle palpation allows us to feel a firm mass, which is fusiform in shape, and placed along and above Poupart's ligament; it is about a decimetre in length, and seven centimetres in breadth across its centre: the constipation continues: mercurial inunction, hip-bath, enema. December 29th: pain diminished; the patient bends somewhat forwards in walking, owing to a difficulty he experiences in extending the thigh on the pelvis; this difficulty seems to be simply caused by the tension of the skin, and the consequent compression of the tumour; for, when the patient is lying down, the thigh can be completely extended and abducted, provided the integument is pushed upwards from the lower extremity. Leeches were again applied on January 2nd, the baths and poultices were continued each day; the patient was discharged, perfectly cured, on the 10th of the same month. The size of the swelling in the anterior abdominal wall, the rapidity with which the tumour increased and again decreased, were clearly owing to the phlegmon being located in the loose and extensible subperitoneal cellular tissue: these symptoms contrast forcibly with those presented by the previous case, in which the phlegmon was beneath the iliac fossa.

M. Bauchet, report on abscess of the iliac fossa ('Gaz. Hebd.,' 1862, 35, 67): some clinical remarks by M. Trousseau, from which it would appear that the symptoms of psoas abscess are dependent on the crural nerve, and not on the psoas-iliacus muscle (ib., 81): a case of subperitoneal phlegmon, complicating diabetes, under M. Lasègue ('Gaz. d. Hop.,' 1862, p. 405): a case of abscess containing fetid gas, under Mr. Hutchinson ('Brit. Med. Journ.,' 1862, ii, 296).

Fibrous tumour of the iliac fossa.—M. Nélaton has given a lecture on this affection, of which he has met with fifteen or twenty instances in the course of his practice ('Gaz. d. Hop.,' 1862, p. 77). This tumour resembles in structure the fibrous tumour of the uterus. It occurs usually in young women, who have borne children, but has never been seen in man,—its origin probably depending on the genital peculiarities of the female sex, possibly on the congestion which so often occurs at the menstrual periods, and during pregnancy. It occupies one or other of the iliac fossæ, close above Poupart's ligament, and is constantly attached by a fibrous band to the ilium, near the anterior superior spinous process. It is single, hard, and elastic; its growth is very slow, taking from four to ten years to arrive at the size of two fists; the largest size seen by M. Nélaton was that of the head of a newly-born infant; the pain is of a lancinating character, extends to adjacent parts, especially the thigh and leg, is worse in summer than in winter, and occurs more frequently in the night than in the day. It may be pushed somewhat upwards, but not downwards; it can be forced a little backwards but not inwards, owing to its iliac attachment—this latter mark being characteristic. It is developed in the cellular tissue between the iliac fascia and the peritoneum. The skin over it is natural in colour and consistence.

It may be confounded with enchondroma or with a collection of fæces: but the former is very hard and irregular, while the fibrous tumour is smooth, and unaccompanied by any intestinal symptoms. It might perhaps be mistaken for a glandular swelling, for a fibrous tumour of the uterus projecting into the iliac fossa, or for a tertiary syphilitic tumour, which presents a certain resemblance, although situated in the abdominal wall. But the integument generally adheres a little to a syphilitic tumour, and is slightly changed in colour; the subcutaneous tissue is found, on pressure for about a minute, to be a little œdematous,—a sign of the first importance. Nothing of the kind is observed in the fibrous tumour of the iliac fossa. Glandular swellings have not the firmness characteristic of fibrous tumours; they are somewhat resistent to the touch, occasionally they present obscure fluctuation. A much more important diagnostic sign is, that they are scarcely ever solitary, while the fibrous tumour of the iliac fossa is always so. Moreover, glandular swellings are situated about the fold of the groin, rarely deep in the iliac fossa; and they are moveable in every direction. Fibrous tumours of the uterus may be distinguished by vaginal examination combined with abdominal palpation. As to the treatment, if the tumour is small, and if it does not cause much pain or inconvenience, the surgeon should be in no haste to interfere. If, however, it becomes painful and grows rapidly, or if the patient insists on its removal, the surgeon may be obliged to operate. M. Nélaton has twice performed this delicate operation. In one case, M. Michon believed the disease to be encephaloid; M. Nélaton, having recognised the affection, recommended its removal. In the operation, the peritoneum was found to adhere very firmly to the tumour; a small hole was torn in it, which was fortunately closed by a piece of omentum. The great vessels in the iliac region were laid bare, but were not wounded. The pedicle of the tumour was cut from the crest of the ilium by scissors. The patient continued perfectly well four or five years after the operation. The second case was of a simpler kind; in it, a tumour rather larger than the head of a fœtus at full term, was removed through an incision like that for ligature of the external iliac artery; the patient recovered, and there has been no relapse.

Intestinal Obstruction.

Mr. Gay traces, in his paper on intestinal obstruction by the solitary band ('Trans. Med. Soc. Lond.,' i, 137), the formation of the band to the process of cure of some serious intestinal affection, such as ulceration or a penetrating wound; lymph is thrown out, and an adhesion is formed with some neighbouring part; at a later period, from the motion of the intestines or other causes, this adhesion stretches into a band, perhaps many inches long. "The practical conclusion at which I arrive from the foregoing remarks is, that our present means of diagnosing internal obstruction by bands are imperfect; and that consequently many cases will escape the most careful scrutiny to ascertain their cause. On the other hand, the inductions from the confessedly superficial analysis of the cases which I have collected, and thus cursorily examined, encourage and even authorise the surgeon, in a case presenting a certain combination of features or evidence, in other words, in a well-marked case, rather to explore the abdominal cavity than to allow the patient to sink without the chance that such a procedure might afford. These evidences should be:

1. An antecedent abdominal affection, of such severity as to lead the surgeon to believe that it might have been attended with some ulcerative or perforative process of either the bowel or the mesentery.
2. Suddenness of the attack, without previous visible deterioration of the patient's health.
3. Pain, first localised, then tenderness over a large area.
4. Distension, with general dulness at first; and subsequent concentration of dulness and tension towards the original seat of pain.
5. Vomiting, especially if it speedily become fæcal.

I believe that no such conjunction of symptoms as these can arise without some sudden alteration in the relation of parts within the abdominal cavity; and that in most cases a bridle will be found to be either directly or indirectly constricting a portion of intestine. As soon as the last of the series of symptoms—fæcal vomiting—has set in, the surgeon is, in my opinion, justified in proceeding to explore the abdomen. Should a band or bridle be found, some caution must be observed in its treatment. It should be divided; but, in case it unites two portions of a hollow viscus, there is a probability of its being tubular; consequently, the two ends should be twisted or tied, to ensure their not allowing the escape of the visceral contents."

Artificial anus in internal obstruction: A man of fifty-five was admitted under M. Nélaton with well marked symptoms of internal strangulation. The obstruction had existed for six days. M. Nélaton decided on making an artificial anus, an operation which he has performed six times: the first time successfully in a young man on the eleventh day of strangulation; the second and third patients died; the fourth, again a young man, recovered; the fifth died; the sixth, the wife of a medical man, recovered, although the operation was performed *in extremis*. In all three cases of recovery, the strangulation disappeared after some ten days, and the artificial anus closed.

The operation consists of an incision parallel to, and about a centimetre above, Poupart's ligament on the right side; it commences at a distance of two centimetres from the anterior superior spinous process of the ilium, and reaches to within one centimetre of the middle of the crural arch, so as to avoid the epigastric. The abdominal wall is divided, layer by layer; and, when the intestine protrudes, it is firmly fixed to the lips of the wound by ten or twelve points of suture: an incision is then made into the bowel.

The present case died within twenty-four hours; the post-mortem examination showed that the obstruction was caused by a band. It should be mentioned, that this patient was almost in a dying condition, and that the operation was only performed as a last resource ('Gaz. d. Hop.,' 1862, p. 273). A similar plan of treatment has been followed by Dr. Tüngel ('Arch. f. klin. Chir.,' i, 334) and Professor Wachsmuth ('Arch. f. path. Anat.,' xxiii, 118).

Mr. Hinton on intestinal obstruction ('Brit. Med. Journ.,' 1861, ii, 660): Dr. Smith, intussusception in children ('Amer. Journ.' and 'Brit. Med. Journ.,' 1862, i, 291): Professor Gruber, on hernia interna mesogastrica ('St. Petersb. Med. Zeits.,' ii, 161): Dr. Erichsen, some rare cases (ibid., 305): Dr. Duchek on the true, intestinal diverticulum ('Woch. d. Zeits. d. k. k. Ges.,' 1862, p. 313): Dr. Roth on enterostenosis ('Würzb. Zeits.,' iii, 113).

Stone in the Bladder.

Mr. H. Thompson has traced at length the treatment of this affection; our space will only allow us to extract his account of the causes of death after lithotomy, and his final deductions ('Lettsomian Lectures on Surgery,' Lancet, 1862, i, 167, &c.).

"*Causes of death in adults.*—The first, and beyond all doubt, the most frequent, cause of death in the adult, is acute inflammation of the tissues, especially of the loose cellular tissue, around the neck, base, and sides of the bladder. This inflammatory action may be caused by mechanical violence, by urinary infiltration, by want of reparative power in the patient, by erysipelas.

"1. By mechanical violence inflicted in the removal of the stone, especially when the opening is of insufficient size.

"The majority of authors affirm that infiltration of urine is the most common cause of death—a statement that I venture not only to call in question, but to regard as the source of serious error in practice. Infiltration of urine is one of the causes of suppuration and destructive inflammation of the peri-vesical cellular tissue; but it is by no means the universal one. The doctrine based on this belief is, as follows—If the internal incision passes beyond the limit of the prostate in any direction, so as to open up the cellular interspaces behind the deep fascia, urine is almost certain to find its way into them; and, if it does so, fatal inflammation will result: in order, therefore, to avoid this danger, the internal incisions must be extremely limited. But, sound as the principle is, to keep the internal incision strictly within the prostate in adult patients, in practice, I am satisfied, that the desire to limit it has been carried to an extreme degree; and that another and not less serious danger of arousing inflammation of the same cellular tissue has by this very means been increased—I refer to the danger, which attends an attempt to drag the calculus through an opening of insufficient size. From what I have seen of the practice of lithotomy in various hands, in town, in the country, and abroad, I am persuaded, that insufficient internal incisions are equally dangerous with those which are too free; and that the tendency of the present day is toward the former extreme. The purely anatomical view of the subject appears now to be in the ascendant. The *vital* attributes and dispositions of the organs involved are not sufficiently regarded. The student is taught to fear beyond all things an approach of the knife to the peripheral limit of the prostate; and in overdread of cutting it, he barely divides the prostate at all. Hence the no less dangerous injury which results from violence inflicted by the forceps and by the stone upon the neck of the bladder, and from the powerful traction upon it, which injures, often irreparably, the loose cellular connections in which the viscus is imbedded—connections which are delicate in structure and loosely applied, for the purpose of permitting free extension of its parietes to the varying condition of size, which its function as a reservoir of urine demands. Destructive inflammation of these delicate structures is easily produced by the forcible dilatation and the dragging downwards of the neck of the bladder, which insufficient incisions render necessary. Inflammation once extending through these structures rapidly invades the peritoneum, which, very probably, is more frequently implicated in this manner, than by any other cause.

"In connexion with this subject there is a very significant fact,—that while it is certain that the boundaries of the prostate are almost invariably overstepped by the knife in children, infiltration of urine very rarely occurs in their cases. Happily also, infiltration does not necessarily follow such incisions in the adult; but they render it more likely to occur. That the prostate has often been completely divided with impunity for the removal of large stones is certain; and the risk incurred from that cause is unquestionably serious. Danger is always great in a ratio proportioned to the size of the calculus; but this arises quite as much from the violence inflicted in removing it, as from the depth of the incisions employed.

"Let it not be imagined from these remarks, that any one can deprecate more strongly than myself the making of an incision in the prostate more deeply than the size of the stone demands; but I am very certain that it is safer to extend the incision, when the stone cannot be extracted without exerting violence, than to inflict the injury which such a proceeding necessarily involves. The advocacy of small internal incisions by Scarpa, who laid down as an axiom that an incision of five lines into the prostate, with dilatation, sufficed for the extraction of a stone of more than ordinary size, and by Sir B. Brodie, in his admirable lectures, as the *sole or chief* means of preventing urinary infiltration, has greatly influenced professional opinion on this subject. And I believe the effect may have gone beyond the intention of its authors; since the force with which this particular source of danger has been insisted on by almost all subsequent writers, has led many to regard it as the only, or at least the main, evil to be feared in the operation; and thus, perhaps, has indirectly occasioned the oversight of danger in the opposite direction. I wish here to point out that in shunning Scylla we may encounter Charybdis, and that a great obstacle to successful lithotomy lies on either side of our path, and not on one side only; that we must preserve the neck of the bladder equally from too deep an incision on the one hand, and from the mechanical injury necessitated by one which is too limited, on the other. I fortify my position by reference to the significant fact, that the most successful operators have been those, who advocated sufficient incision as less dangerous than violent extraction.

"At the same time it is always to be remembered, that the neck of the bladder is susceptible of dilatation to a very considerable extent, if only it be *gradually exerted.* It yields first to the pressure of the finger as it passes through immediately after the knife; secondly, it dilates further in the act of sliding in the forceps upon the finger; and lastly, it gives way still more when the forceps is withdrawn containing a stone between the blades, especially if it be a large one. This, its susceptibility of becoming dilated, is of the utmost value to the lithotomist. Indeed, if it did not exist, and largely too, none but small stones could be withdrawn through any incision limited to the prostate only. But in order to take advantage of it, the dilatation must be made slowly and gently. If done hastily, harshly, and forcibly, it is not dilatation which has been accomplished, but rupture. And by 'rupture,' I do not mean the mere enlargement of the wound in the prostate and neck of the bladder, which probably is often legitimately occasioned, but the rupture of the surrounding cellular connexions with the numerous veins and the capillary network which traverse them—results of an extremely dangerous character. In this way inflammation of the cellular tissue, pelvic abscess, or phlebitis may be set up: suppuration is produced in a situation where the pus finds its way to the peritoneum, and not to the surface; and when this state of things exists, a deep incision would prove a safeguard, rather than the contrary, by affording exit to the confined matter. It is wholly impossible, then, to overrate the importance of slowly and gently dilating the neck of the bladder and the incisions which have been already sufficiently made, and giving abundance of time in the act of introducing the forceps and especially in that of withdrawing the stone. If there be any single proceeding in connexion with the practice of lithotomy, no matter what is the operation performed, which demands, more than any other, care, attention, and self-command, I should say it is the manner in which we traverse with instruments the wound in the neck of the bladder.

"2. Death after lithotomy may result from rapidly spreading inflammation produced by urinary infiltration into the cellular interspaces between the pelvic viscera, when they have been opened by too deep incisions.

"This result, although undoubtedly occurring sometimes, does so much less frequently, I believe, than is usually supposed. It is true that at a post-mortem examination, after a large stone has been with difficulty extracted, the cellular connexions of the neck and base of the bladder are found to be broken up; sloughs of the connective tissue appear bathed in fluid, sero-purulent, and urinous; and marks of peritonitis, especially severe in the pelvis, are observed. But there is good reason to believe, that in most cases urinary extravasation is not the primary cause of the inflammation, but that inflammation has been the occasion of the urinary extravasation. Cellulitis, produced by violence, has first destroyed the connexions in the manner described, and then the urine has rapidly infiltrated the disintegrated tissue, and has lighted up a virulent peritonitis, or intensified a previously existing one. Such appears to be the true explanation of the phenomena, which mark the progress of events during the period, more or less brief, which follows the operation in many fatal cases.

"I am aware, that this doctrine is opposed to the generally received notions on this subject. I speak with great respect for existing views; but careful pathological study of the subject by the bedside of the dying patient, and at the subsequent autopsy, has convinced me, that the true cause of death in the majority of cases, the cause that it most behoves the operator to guard against, is violence in opening up the internal part of the wound, and laceration of the tissues there, and not the primary passage of urine into the intercellular connexions about the neck of the bladder. Happy is it, if it be so, since the first it is in his power to avoid; the second is a danger which would be often inherent in the operation, and unavoidable with a stone much above the average size. That it is not an inherent necessity in the operation seemed to me to be indicated in an early study of this difficult and important subject by the fact, that forty or fifty consecutive cases of lithotomy might be cut, and have been cut, without a single casualty. If it were a fact that cellular interspaces could not be cut without the gravest risk to life, how could such a result be possibly accounted for? It was necessary to suspect the existence of another cause; and here the comparison of living phenomena with anatomical appearances led me to conclude, that the cause is avoidable, and not inherent. That, to sum up the subject, in the great majority of cases, the cause of death is due to unnecessary violence inflicted on the neck of the bladder and parts adherent, causing destructive inflammation of the connective tissue and of the network of minute blood-vessels which pervades it, and that then, and not until then, does infiltration of urine occur, when it rapidly and frightfully augments the already existing danger. In some cases a small quantity of poisonous fluid, associated with or resulting from decomposed urine, probably enters the circulation by absorption, and produces those depressing constitutional symptoms which always accompany this accident, and which are dangerous in proportion to the diminished capacity of the kidneys to eliminate them from the blood, and of the constitution itself to overcome the shock which it invariably sustains in these circumstances. Lastly, in all or nearly all instances, the irritating fluid soon reaches the peritoneum, and if the powers of life are not already exhausted, it gives rise to fatal peritonitis.

"The remaining causes of death after lithotomy I shall simply name, as time admits of no detail. At the same time, somewhat less of importance attaches to them than to those already named. They are, cellulitis occurring from constitutional causes; inflammation of the bladder extending upwards to the kidneys; absorption of urinary products; phlebitis and pyæmia; shock; hæmorrhage; and exhaustion.

"*The causes of death in children.*—The single cause of death in children, which must be placed first on the list from the frequency of its occurrence, is peritonitis, one which is by no means common in the adult. The next cause—and it probably operates almost as frequently as the preceding—appears to be constitutional exhaustion or debility.

"It will make our path clearer, if we first consider the causes which render lateral lithotomy so much less fatal in the child than in the adult, a fact notorious to the youngest student of surgery. I believe them to be threefold. First, lithotomy is not a very fatal operation in the child, because the sexual organs are not yet endowed with that special sensibility, the development of which constitutes the state of puberty—a sensibility which, depending on most intimate connexion between those organs and the cerebro-spinal system, necessarily associates them by the closest ties with all the other vital functions in the economy; so that any shock or injury received by the adult sexual apparatus very frequently involves constitutional sympathies of the gravest character to the life. In the child, there is, in fact, no *sexual* apparatus—that is to say, its condition is at present rudimentary, and the young patient is exempt from the danger, which exists in the circumstances pointed out. This is the first and the chief fact in favour of the child. The second consists in this—that the processes of growth, and consequently of repair, are more vigorous during childhood than during any other term of life, and injuries are more rapidly and more easily surmounted, than when these processes are less active. There are special adverse influences at certain periods of childhood, which counteract to some extent the beneficial effect of this, as we shall presently see. Thirdly, the position of the bladder in children favours very greatly the continuous and complete discharge of urine and all noxious secretions after operation, a fact which is doubtless of some value in their cases.

"Now, the liability to death after the operation of lithotomy in childhood varies very much at different epochs of that period. Our table of upwards of 1000 cases shows, that from the second to the fourth year inclusive the deaths are about one in ten or eleven cases; that during the next year they slightly decrease; and that between six and ten years inclusive they are only one in thirty cases. Between eleven and thirteen the death-rate returns to one in fourteen cases, gradually rising between the fourteenth and sixteenth year to one in seven and a half, and from the sixteenth to the twentieth year to one in six cases.

"During the first three or four years of life, lithotomy is far less successful than during the subsequent period. The first dentition, with its dangers, is now encountered, and the excitable nervous system of infancy neutralizes some of the advantage which arises from the reparative power of childhood already referred to. But as those two constant sources of disease and death during the earliest years cease to be effective, we find the boy of six to ten years but very slightly exposed to risk from lithotomy, the mortality being one in thirty cases, or little over three per cent. The approach of puberty slightly darkens the shade between eleven and thirteen; shows itself in a marked manner between fourteen and sixteen; and during the first onset of its influence on the system, between sixteen and twenty, before the man is fully developed, and before the body has become established and fortified, lithotomy counts its victims almost as numerously as at any subsequent period of life.

"It has been already stated, that the most frequent cause of death in children is peritonitis. The bladder in children is an abdominal organ rather than a pelvic one, and has more intimate relations with the peritoneum, than the bladder of the adult possesses. On examining its structure, also, it is easily seen that the peritoneum is more entitled to its anatomical distinction of constituting one of the vesical coats in the child than in the adult. Hence violence in extraction tells much more readily and directly on the peritoneum in the former than in the latter. In the adult we have seen that if the peritoneum is inflamed, it is rather by an extension through primary inflammation of the cellular tissue around the neck of the bladder, than by direct irritation occasioned by the operation. The converse condition is the rule with children. The undue manipulation of instruments in the cavity of the bladder, or exertion in withdrawing the stone, appears to excite peritoneal inflammation much more readily than any other lesion. That it does not happen in children by the intermediate step of urinary infiltration is obvious from the fact, that the prostate in them is so exceedingly small as to be almost always, if not invariably, cut wholly through in lateral lithotomy, yet without its occurrence. Indeed, it is not possible that either forceps or finger can pass into the bladder, unless the incision exceeds the thickness of that organ. In considering this matter, there appears to be a tendency to forget a fact I have already alluded to,—the non-existence at this period, except in a rudimentary form, of any sexual organs. I have dissected many prostates in children; the size of one at seven years (let us add, therefore, at the most favorable age for lithotomy) may be estimated from the fact, that it weighs about thirty grains, while from eighteen to twenty years it weighs 250 grains, or nearly nine times as much. And yet no infiltration of urine takes place,—lax, delicate, and yielding, as are the cellular interspaces necessarily exposed in these subjects.

"Here then, again, as in the adult, the fatal injury from the operation is more commonly due to violence, than to any other cause, but telling directly on the peritoneum rather than on the cellular connexions of the bladder. Such is the inference I deduce from the study of numerous cases of death in children, respecting which I have been in a position to form opinions.

"The next cause of death is exhaustion. Young children bear the loss of blood badly, and when it is considerable—an occurrence which, however, is rare—the patient sometimes sinks from consequent exhaustion. The condition of calculous children, also, if the stone has long existed, is occasionally low in the extreme, and they gradually sink without any apparent effort to rally, no active attack having declared itself.

"Besides these two principal causes of death, there are occasional examples of fatal result from shock after very prolonged or severe operations; from disease of the kidneys and bladder; from phlebitis and intra-pelvic abscess."

Final deductions relative to the operations to be employed in particular cases.

"1. For all cases of calculus during the periods of infancy, childhood, and boyhood,—which may be regarded as from one to twelve or fourteen years of age,—the following course appears to be the most judicious:—

"To practise lateral lithotomy as the rule: the mortality from which varies during this period from one in eleven to one in thirty cases; the mean of the whole being about one in fifteen cases. The exceptional cases are those, in which the stone is only a little too large to pass by the urethra, and therefore *small*. For these there is no occasion to perform lithotomy. Opposed as I am to lithotrity in children as a rule, for reasons already named, I nevertheless believe, that when the stone is so small as to be pulverized by a single crushing with a suitable lithotrite, it is the simplest and best method of proceeding.

"With regard to median lithotomy in children, there appears to be no objection to it, provided a director or gorget conducts the finger into the bladder. At the same time I do not know that it offers any particular advantages.

"2. In adult cases we have to decide between lithotomy and lithotrity; and if the former is indicated, to point out the particular form to be employed.

"First; lithotomy or lithotrity?

"The special indications for these operations must be considered, as they relate to two separate classes of patients:—

"*a*. In tolerably strong and healthy adult patients.

"*b*. In feeble and diseased adult patients.

"This division is of more practical value than a division founded on age, because the indications of age are less strongly marked after manhood has been attained than before. If age be regarded alone, the period between twenty-five and forty years gives the best results,—namely, one death in ten cases of lateral lithotomy. But the data are comparatively few, since it is the period of all others when stone is most rare. The question of age and its effects in adults is therefore included in the major one of constitutional condition.

"*In the class of healthy adults.*—If the calculus is of small or of medium size, and single, whether it be soft, friable, or compact, and supposing it proved by preliminary examination, that instrumental manipulations can be easily performed, and are well borne, it may be crushed.

"But the term 'medium' here used in relation to size, although admitting of a little extension for calculi of uric acid and the urates, must be restricted quite within the limits assigned for those of oxalate of lime. Their spheroidal general outline makes a medium-sized calculus (one inch in diameter) quite large enough, if not sometimes too large, for lithotrity.

"If there is any special or exceptional ground for rejecting lithotrity in such cases, some form of central perineal operation is well adapted to them. The median, if the stone is small or medium; the medio-bilateral, if it is of full medium size; the latter offering more room at small risk when it appears to be required. Probably the result by Buchanan's operation would be equally good; its present achievement in adults is at the rate of eight cases with one death. The median, in adults, from Mr. Allarton's collected cases, has given one death in seven. The lateral, from 510 cases of adults, in our own table (but including stones of the largest size), one death in five and a quarter cases. If, on the other hand, the stone is large, and especially if it be also one of compact structure, the lateral operation would, I believe, generally be the best to select. For a large and friable stone lithotrity may be successful; but such, where the patient's age is between twenty-five and forty years, would probably be as well dealt with also by lateral lithotomy.

"The question is to be considered for (*b*) *feeble and diseased adult patients.*

"1. Where there is no marked disease of the urinary organs, but feeble and failing strength:—If the calculus is of small size, and friable, and instrumental contact is well borne, there is no question that lithotrity should be the operation selected. If of medium size, one would also incline to perform it, if possible; but if hard and compact in structure, median or medio-bilateral lithotomy would probably be a safer proceeding.

"2. Where well-marked disease of some portion of the urinary organs exists:—

"In stricture of the urethra, especially if it has existed long and is well marked, lithotomy is preferable to lithotrity in all cases, but those of the very smallest calculi.

"In hypertrophied prostate, with a quiet condition of the bladder, lithotrity is successful in small and even with medium-sized stones; but with an irritable condition of the bladder, and with compact and large stones, lateral lithotomy seems far preferable, and in such seems more successful than median operations.

"In cases where the bladder cannot expel its contents on account of loss of power in its coats—*i. e.* atony—and not on account of enlarged prostate, no objection lies on that ground merely against lithotrity; indeed, such a condition is much more favorable to success than that of undue irritability of the organ. This is now known to every practical lithotritist, although it is a condition which not long ago was held to contra-indicate lithotrity.

"In marked disease of the bladder, cystitis with constitutional disturbance, tumours simple or malignant, or if the existence of sacculi may be suspected, lithotrity is generally inadmissible.

"Finally, for cases of either class where the stone is of extremely large size, such as are now rarely met with,—say from four ounces upwards,—I doubt whether experience can indicate on the whole a safer method than the lateral operation. We have seen Mr. Crichton's results—viz., eleven cases with two deaths. At University College Hospital, Mr. Liston employed a double incision of the prostate—an incision of the right lobe as well as of the left—in lateral lithotomy, for nine cases of unusually large stone, losing two. The high operation offers, perhaps, as good a chance, if the bladder be distensible, and the patient is not corpulent. Data, however, are wanting to determine the value of this as well as that of the recto-vesical operation in relation to extremely large stones.

"Such, then, are the general principles, which extended observation and experience indicate, in my opinion, to be our guides in selecting the proper operation for given cases. Nevertheless, it is not presumed, that every example can be brought to rule and measure, so to speak, and be mathematically fitted to the process requisite for it. Let it be well understood, that they are held forth as principles to indicate the way, not as rigid laws knowing no exception. By some, I am aware, I shall be charged with limiting the application of lithotrity. No doubt more is *possible* by that process. I doubt whether it is prudent to push it further. *It must be our aim to reduce the stones to the process—that is, to detect them early, and consequently small, rather than to extend the process to large and compact stones.*"

Dr. W. Roberts on the solvent power of solutions of the alkaline carbonates on uric acid calculi ('Beale's Archives,' No. 10, 1862): Dr. Grube, case in which the operation had to be repeated ('Deutsche Klin.,' 1862, p. 402).

Lithotomy: Mr. Bryant, analysis of 230 cases of lithotomy ('Med.-Chir. Trans.,' xlv, 327; 'Guy's Rep.,' viii, 237): Professor Schuh, case of leucocythæmia in which lithotomy was performed ('Med. Jahrb.,' 1862, ii, 22): Mr. Lane, lateral lithotomy with the straight staff ('Lanc.,' 1862, i, 199): Mr. T. Paget, cystotomy without a stone ('Brit. Med. Journ.,' 1861, ii, 631): Mr. Prichard, Mr. Thompson, and Mr. De Morgan on the median operation (ibid., 1862, i, 280, 345, 371): cases ('Lancet,' 1862, i, 171): Dr. Noyes, recto-vesical operation—Bozeman's button suture ('Glasg. Med. Journ.,' ix, 370).

Lithotrity: M. Civiale, statistics for 1861 ('Gaz. d. Hop.,' 1862, p. 90): M. Jobert on lithotrity in children (ibid., p. 363): case in a boy, æt. 4, under Mr. Curling ('Lancet,' 1862, i, 252; and other cases, ibid., 663).

Very large calculi: Case under Mr. Lee ('Lancet,' 1862, i, 5, 172): one under Mr. Paget (ibid., 198, 301): the lithoclast of Messrs. Whicker and Blaise ('Med. Times and Gaz.,' 1862, i, 648): forceps of Nélaton for breaking too large calculi (ibid., ii, 37).

Calculus in the female: Mr. T. Paget on incontinence of urine after lithotomy ('Brit. Med. Journ.,' 1862, ii, 279): Professor Simpson on the vesico-vaginal operation ('Edin. Med. Journ.,' vii, 1089): M. Rames, case of vesico-vaginal operation ('Gaz. d. Hop.,' 1862, p. 358, 359): Dr. Buchanan on the lateral operation ('Med. Times and Gaz.,' 1862, i, 453).

Bladder: Dr. Walter, suture of a ruptured bladder ('Gaz. Hebd.,' 1862, p. 287): Dr. Lowe, case of congenital inversion ('Lanc.,' 1862, i, 250): Dr. Knox on the formation of membranous cysts in the interior of the bladder ('Med. Times and Gaz.,' 1862, ii, 104): Mr. Hulke, operation for extroversio ('Lanc.,' 1862. ii, 114): M. Mathieu, instrument for the extraction of hair-pins ('Med. Times and Gaz.,' 1862, ii, 37).

Urethra: M. Gély on curvilinear catheterism (4to, pp. 172, Paris, G. Baillière): M. Marx on the febrile affections which follow operations on the urethra (8vo, pp. 124, Paris, G. Baillière).

Stricture: Professor Roser on valvular strictures, and on external urethrotomy ('Arch. d. Heilk.,' 1862, pp. 420, 426): Mr. Thompson, new urethrotome ('Med. Times and Gaz.,' 1862, i, 566): cases in the female ('Lanc.,' 1862, i, 515, 634).

REPORT

ON

MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

BY

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Part I.—MIDWIFERY.

WORKS, PAPERS, ETC., RELATING GENERALLY TO MIDWIFERY.

Obstetrical Transactions, vol. iii.—*Transactions of the Obstetrical Society of London for the year* 1861. 8vo, London, Longmans, pp. 442. Ten lithographic plates and six woodcuts.

The present volume, the third published by the Society, contains thirty-nine articles, abstracts of the greater part of which appeared in the volume of the 'Year Book' for 1861. The volume contains, further, reports of the discussions which have taken place at the meeting following the readings of the several papers or communications brought before the Society.

Meadows, Dr.—*Manual of Midwifery.* London, Renshaw, 1862, pp. 319.

This work—as the author states in his preface—contains, "in as concise and convenient a form as was practicable consistent with its importance," a representation of the subject of midwifery. The work is intended to supply what the author believes to be a great need—a handbook similar to those which exist on other branches of medical study. In Part I the anatomy and physiology of the organs of gestation are considered; in Part II, the subject of pregnancy; in Part III, natural parturition; in Part IV, obstetric operations; in Part V, unnatural labour; in Part VI, complex labour; and lastly, in Part VII, puerperal diseases. With a concise account of the various subjects treated of is conjoined a résumé of the more important additions made to obstetrical knowledge of late years, both as regards pathology and treatment.

Copeman, Dr.—*Rare Cases in Midwifery.* Brit. Med. Journ., 1862, pp. 35, 199, 407, 491, 649; and vol. ii, pp. 297, 506, 556, and 662.

This series of rare and interesting cases in midwifery, commenced in this journal in 1861, is here continued; the above cases include Nos. 5 to 21.

Harley, Prof. and Dr. Tanner.—*Report on a Twin (?) Abortion exhibited at the Obstetrical Society by Mr. Langmore.* Report of Obstetrical Society, Lancet, Aug. 2nd, 1862.

A lady aborted on May 22nd; a fœtus of about four months' gestation was expelled; it was flattened, more or less atrophied, and had evidently been dead some time. The placenta was removed, and afterwards a smooth, soft body was peeled off the upper part of the uterine cavity, which proved to be a second bag of membranes. The chorion and amnion were unruptured, healthy and transparent, and through them an embryo of about five or six weeks could be plainly seen floating in clear liquor amnii. The embryo appeared fresh and perfect, and not at all atrophied. Was this an instance of twin pregnancy or of superfœtation?

Drs. Harley and Tanner were directed by the society to investigate the question. Their report concludes thus:—"We are led to assume that the case under consideration is an example of superfœtation, for this reason: if the second, healthy, six weeks' ovum were the product of the same conception as the first four months' fœtus, which had been dead some time when expelled, then we must believe that, although the latter perished some days before its expulsion, and manifested symptoms of putrefaction, yet the small, second ovum died when six weeks old, was retained for about ten weeks afterwards, and nevertheless, when removed, was perfectly healthy, and did not present any trace of decomposition." We cannot subscribe to this improbable view. As, theoretically, we see no physical obstacle to the occurrence of superfœtation during the first three months of pregnancy, so we think the specimen now reported upon proves, as far as anything of the sort can prove, that superfœtation is a positive fact.

Helly.—*Clinical Report of the Lying-in and Foundling Hospital in Trent for the Session* 1860-61. Prag. Viertel., No. 3, 1862.

The number of women patients of the hospital during the year, August 1st, 1860, to July 31st, 1861, was 297. 241 were delivered in the hospital, 1 was delivered by a post-mortem Cæsarean section. The deaths were 2. Of the 243 children born, 6 were born dead. The delivery was premature in 9 cases. 211 children were transferred to the Foundling Hospital, and 26 died. The number of children in the Foundling Hospital during the year was 387; 44 of these died. The obstetric operations were—extraction by forceps, eleven times; craniotomy and application of cephalotribe, once; post-mortem Cæsarean operation, once; incision of the os uteri, once; incision of the vaginal aperture, once; turning on the head in oblique position of fœtus by internal manipulation, once; manual assistance in pelvic presentations, three times. Of the 235 cases of occipital presentation there were 2 cases in which the head was in the fourth position; both children were born alive, one naturally, one by the aid of the forceps. In both there was rotation of the anterior fontanelle from the back to the front. There was one case of face presentation. The labour lasted fifteen hours, the child living; the head measured in its long, oblique, and straight diameters equally, 5″. In the pelvic presentation cases (six) the children were all, with exception of one premature child dead for some time, born alive. There was in one case prolapsus of funis by the side of the head; manual reposition effected, and a living child born. In one case there was a persistent funic souffle heard during the latter months, and the cord was found coiled three times round the neck of the child; the child was born alive. The author considers that, supposing such coiling to be the cause of this souffle, it is to be expected that it will, as was observed in the foregoing case, cease to be heard as the head and neck descend into the pelvis with the advance of the labour. Other circumstances, however, such as pressure of the head on the funis in cases of low insertion of the placenta, may give rise to the funic souffle. In a case related there was found an unusual adhesion between the surface of the membranes and the inner surface of the uterus in the neighbourhood of the os, which was so considerable as to delay the dilatation of the os for a considerable time. After breaking down of this adhesion by the finger the labour proceeded naturally. The amount of pelvic narrowing met with during the year was, if we consider only those pelves too narrow which interfere with the progress of the labour, very trifling. But if we accept the opinion of Michaelis and Litzmann, that a conjugate diameter of less than 3½″ is the limit, there were, in the 242 cases observed, thirteen instances of narrow pelvis. In only one of these latter cases were there indications of rachitis; here, however, the pelvis was the most narrow of all. The actual measurements were—4½″ once, 4¼″ once, 4″ to 4¼″ in four cases, 4″ in five cases, 3¾″ to 4″ in one case, and 3½″ in one case. The deliveries in these cases were—natural in ten cases, in two the forceps were used and perforation employed once. The forceps cases were, as a rule, not those included in this series. Of the children in these cases, besides the perforation case, one was born dead, two stillborn, but recovered. There were three premature, three births at full time. In the perforation case the diameter of the conjugata vera is estimated at 3″, the results of external measurement giving 3½″ as that of the "conjugata diagonalis" diameter. The patient was a primipara. After the labour had lasted four days, the head not entering the pelvis, perforation was employed, the swollen lip of the os being first incised by a bistoury. The child was alive until just before the operation was decided on. It was 20″ long, weighed five and a half pounds, and the bones of the head were firm. The patient died twenty days afterwards, with signs of gangrene of the lungs. A cavity the size of a hen's egg was found in the right lung, containing an offensive detritus of a greenish colour. The uterus and appendages natural. The "conjugata vera" was 3″, the pelvis rachitic. With reference to hæmorrhage, it was observed in one case in the first stage of the labour, in nine cases immediately afterwards, and in four cases subsequently. In the first case the forceps was used, the bleeding was due to partial separation of a normally placed placenta; mother and child were saved. The nine cases occurring after birth of child were treated successfully by friction over the uterus, emptying of its cavity of placenta and coagula, injections of cold water, and in one case by kneading of the uterus by the hand. In cases of atony of the uterus frictions after the English method are considered of great service, as preventing hæmorrhage, retention of placenta, &c. The employment of a binder in all cases of labour indiscriminately is reprobated. Hæmorrhage within the first week in four cases was checked by solution of alum. Laceration of the perinæum occurred in eleven cases to a greater or less extent, and in one case the perforation was central. In the latter case the head was found external to the pelvis one hour after rupture of membranes in a primipara. The vaginal aperture closed. An incision was made on each side and delivery effected. The forceps cases were eleven, or 1 in 22. The author does not habitually apply the forceps until it is evident that further delay will be fruitless, although in many cases it is certain the labour may be by their use brought more speedily to a happy termination. The cases were as follows:

No.	Primipara or pluripara.	Indications.	Forceps applied with the head—	Result for child.	Remarks.
1	Primipara	Eclampsia	At outlet	Living	—
2	”	Weak pains	”	”	—
3	”	Weak pains; child's life in danger	”	Stillborn, covered with meconium; recovered	—
4	”	Weak pains	”	One of a twin case; dead	—
5	”	Eclampsia	In cavity of pelvis	Living	In fourth position
6	”	Weak pains; danger to child's life	In cavity	Stillborn, cyanotic, covered with meconium; recovered	—
7	”	”	Outlet	Stillborn; recovered	—
8	Pluripara	Hæmorrhage from premature separation of placenta	Cavity	Living	—
9	Primipara	Life of child in danger	Outlet	”	—
10	”	Pains weak; danger to child	”	Stillborn; recovered	Death two days after, from atelectasis pulmonum
11	”	Weakness of pains	”	Living	—

In all these forceps cases, those of eclampsia excepted, ergot had been previously given. All the mothers survived; one only suffered from a slight attack of puerperal fever. Eclampsia was three times observed, twice in the progress of the labour, once within half an hour after. Albumen was always present in the urine, and in quantity proportionate to the frequency and intensity of the attacks; fibrinous casts were also present. Inhalation of chloroform was employed and opiate enemata were given; and, further, the labour was hastened by the use of the vaginal douche or by the forceps. The children were all born living. In two cases the albumen had disappeared in thirty-eight hours and three days respectively. In the third case, three weeks before the labour, œdematous swellings of the lower extremities, genitals, &c., had been noticed; the patient had puerperal peritonitis, and the case was protracted. The total maternal deaths from all causes was three; one of these has been alluded to. The second was, and had been, the subject of severe intermittent fever, and this appears to have caused her death eighteen days after labour. The third patient died suddenly of acute œdema of the lungs; as the fœtal heart had been heard half an hour before her death the post-mortem Cæsarean operation was performed, and a well-developed, but dead, fœtus extracted. The lungs were affected with œdema, and there was Bright's disease of the kidneys.

MITCHELL, Dr. ARTHUR.—*On Difficult or Anomalous Parturition in connexion with Idiocy.* Med. Times and Gaz., July 12th, 1862.

The author relates the results of an inquiry into the history of 554 idiots and imbeciles in the counties of Aberdeen, Kincardine, Perth, Fife, Kinross, Clackmannan, and Wigton, with a view to discover the cause of the mental defect. The special influence of the act of parturition is here considered. Of sixty nothing was known, of seventy-nine others information was generally defective, but good on some points. The facts related were carefully collected and scrutinised. In their aggregate, the author believes that they tend to the general conclusion that tedious labours and instrumental deliveries do frequently injure the child in such a manner as to lead to the manifestation of idiocy. The act of birth is often fatal to the child; it is more so when the delivery is tedious or instrumental. It is a reasonable inference, that that which is fatal to so many will inflict grave and permanent injury on many others whose life may be spared. Further, since it is the head which is chiefly exposed to such injury, it may be expected that disease and defective development of the brain should follow. It has been shown that according to the extent of compression of the head is the frequency of fatal results, and that when the size of the head is increased only by the difference between the male and female heads the difference is marked in this respect—more boys than girls die from the act of birth. The act of birth further injures more boys than girls, of which there is proof, the author believes, in the greater mortality of male children during the first year of life, and a further proof in the fact that, while of those who become insane in adult life there are constantly more females than males, the reverse is true of those whose insanity dates from infancy, among whom there are constantly more males than females. Another fact supporting these views is the large proportion of idiots who are first-born children. Difficult parturition sometimes kills the child, sometimes injures it when life is spared, and of this injury idiocy is one of the manifestations or consequences. This *à priori* argument and conclusion is borne out by the facts the author has collected, and which are as follows:—(1) Of cases in which the labour was long and tedious, 57 cases are noted, 1 in 8·7 of whole. In all these cases the length of the labour considerably exceeded twenty-four hours, in many labour was said to have lasted two or three days, in four cases four days, in one five days. (2) In 4 cases labour was unusually rapid. (3) Of forceps deliveries there were 22, or 1 in 22·5. The Edinburgh Maternity shows the frequency of forceps deliveries to be 1 in 472. One of the 22 was paralysed at birth, several had fits after birth, in others animation was suspended. In 9 bald patches or cicatrices about the head proved use of instruments. Allowing for the fact that the frequency of the Edinburgh ratio is based on the number of women delivered, and supposing that the mortality in forceps-delivered children is 27 per cent. greater than under ordinary circumstances, there would be among such children as reached the age of five years only 1 in 786 who had been delivered by forceps, instead of 1 in 472. (4) Of version, 4 cases, or 1 in 123, the Edinburgh ratio being 1 in 236. (5) Of preternatural presentations 6 cases. (6) Of plural births, twins 11 times. [The connexion between plural births and idiocy is discussed by the author in a separate paper.] (7) It was difficult to elicit facts of a reliable kind as to the number of premature births; 308 idiots, however, yielded 9 premature cases. (8) In 29 cases (1 in 17) animation was suspended at birth. (9) In 33 cases the idiot was described as having been weak at birth, in 11 instances as having been notably small and puny at birth, in 23 cases as having been unable to suck for several days after birth, and in some the child did not attempt to suck for thirty days. In 17 instances there were such peculiarities about the child at birth as to lead at once to the suspicion of idiocy. (10) 443 idiots and imbeciles gave 138 *first*-born children, or 1 in 3·2; of the same number (443) 83 were *last*-born. (11) Other facts.—In one case the mother said she had gone greatly beyond the time. In one, great flooding preceded labour. In one there was adhesion of the placenta, requiring forcible removal. Another point to which the author's attention was called, was the fact that so often he was informed that the children, at first plump and apparently vigorous, had markedly fallen off immediately after birth. This appears to be a mere exaggeration of what seems to be the rule with children generally. With reference to the practice of tying the cord immediately or very soon after birth, whether the placental circulation has ceased or not, the author thinks there is room for questioning its propriety. If the cord be tied while the placental circulation is going on, will the weight of the detached child be the same as it would have been if the cord had not been divided till resumed uterine action or other cause had ended the placental circulation? He quotes Baudelocque's opinion in favour of not cutting the cord until some time, at least, after the birth of the child.

SIMPSON, Prof.—*Fatal Peritonitis and Pericarditis during Labour.* Ed. Med. Journ., May, 1862.

The patient, having arrived at the full term of gestation, died some hours after the commencement of labour, very suddenly. She had on one or two occasions a slight escape of blood, but seemed in good health till a shivering fit and occurrence of pains ushered in the labour. The breech presented. The patient suddenly died soon after the nature of the presentation was ascertained. The abdominal cavity was found filled with serous fluid, with floating fibrinous flocculi; slight adhesions of intestines one to the other; the extremities of Fallopian tubes highly congested; ovaries soft and pulpy; the fœtus firmly fixed in the brim. No local cause for the peritonitis was evident. There was slight laceration of the muscular coats of the uterus on its inner aspect at the level of the os internum. There was slight separation of the lower margin of the placenta. The pericardium also contained serum, and was the seat of inflammatory changes.

GENERAL ANATOMY AND PHYSIOLOGY OF MOTHER AND FŒTUS.

GASSNER.—*On the Variations in the Weight of the Body during Pregnancy and the Puerperal State.* Mon. f. Geb., Jan. and Feb., 1862, p. 1.

The author gives the results of examination into this question in 320 individuals:—(1) Variations in weight during the last three months of pregnancy.—The average addition to the weight was, during the eighth (lunar) month, 2·4 kilogrammes; for the ninth month, 1·69 kilogramme; for the tenth month, 1·54 kilogramme. There are, however, considerable variations in this respect, the addition made being proportionate to the size of the individual. Pluriparæ, again, differed from primiparæ, the former receiving an addition to weight, on the average of ·2 kilogramme more than the latter. Where diminution of the weight was observed during the last months there were evident signs of defective nutrition. In cases where the death of the fœtus took place, which was observed in three cases, a diminution in weight of from two to three kilogrames within a space of from eight to fourteen days was noted. This is, therefore, an important diagnostic point where death of the fœtus is suspected. The question arises as to the cause of the increase in weight above described. The author believes that it is, perhaps, in part due to the better feeding received by the patients within the hospital, but chiefly to the increase in the size of the fœtus, and of the whole genital apparatus. There seems to be during the last three months a greater vitality, a greater capability of assimilating nutritive material.

(2) Changes in weight consequent on delivery.—In 190 cases the average diminution following on birth was 6·564 kilogrammes. When the delivery took place before term the diminution was less. In two cases of twins the mean diminution was 11·815 kilogrammes. Where the quantity of liquor amnii was great, in cases of hæmorrhage, copious alvine evacuation, &c., the diminution was necessarily greater, greater also in strong than in weakly women, and greater in multiparæ.

The diminution in weight is distributed thus:—Fœtus, 3·283 kilogramme; liquor amnii, 1·877 kilogramme; placenta, ·6 kilogramme; loss through the lungs and skin, ·150 kilogramme; excrements, ·404 kilogramme; blood, ·250 kilogramme. It was found that the weight of the child was proportional directly to those of the placenta and liquor amnii. It was found that there is no relation of any kind between the mere size of the child and the duration of the labour, for when the child was proportionally small the labour was not thereby shortened. The author found—contrary to what has usually been supposed—that weakly, imperfectly nourished women do not have shorter labours than those in a better state of health, that is to say, taking the average of a number of cases. It was found that the weight of the liquor amnii steadily increased during the last half of pregnancy; at the end of the seventh month (lunar) it was 1·004 kilogramme; eighth month, 1·365; ninth, 1·618 kilogramme; tenth month, 1·877 kilogramme. In a case of twins it was 4·01 kilogrammes. The larger the child the greater the quantity of liquor amnii, and it was greater in pluriparæ than in primiparæ.

In 154 cases a change of position of the child occurred twenty-two times during the last three or four weeks, and in these cases the quantity of liquor amnii was ·628 kilogramme in excess of the average, the phildren having a medium development. The causes of the change in cosition are partly the greater roominess of the uterus, in consequence of a relative increase of the liquor amnii with medium size of child, partly the active and passive movements of the fœtus. In two cases where the child was turned round on the transverse axis the quantity of liquor amnii was still greater. In face, pelvic, transverse and funic presentations, the quantity was not inconsiderably increased. As a general result, it appeared that the nourishment of the child was in proportion to the nourishment of the mother; hence it is probable that the weight of the mother is the best indication of the probable weight of the child. It is to be recollected that the results are liable to be affected by a variety of circumstances; thus, the same mother may give birth sometimes to large, at others to small children, the weight of the mother is not always the same, but liable in itself to change; and the weight relation between the child and mother does not always hold good; possibly it is influenced in exceptional cases from the father's side.

(3) Variations in the weight of the mother during child-bed.—On an average, the loss of weight from secretions and excretions during the 172 hours following delivery was 4·571 kilogrammes, or 8·127 per cent. of the whole weight. The loss was less in the same time when premature labour had occurred. It is a little less in primiparæ, greater when profuse losses of various kinds occurred. The diminution during the time mentioned above depends on several causes. The average quantity of lochial discharge was, during the first five days, 1 kilogramme; the milk taken away during the first eight days was 2·15 kilogrammes.

(4) Differences in weight produced by birth and the puerperal processes up to eight days after birth.—A woman who weighed at the normal end of pregnancy 63·245 kilogrammes lost on an average 11·395 kilogrammes, or 18·02 per cent.

(5) Subsequent increase of weight. On this point there were only a few observations made. In six cases the loss which had occurred during the puerperal state was replaced three to four weeks after delivery.

EARLE, Dr. J. L.—*The Mammary Signs of Pregnancy and of Recent Delivery.* Lond. Med. Rev., Feb., March, April, 1862.

The author believes that, as a rule, too little attention is bestowed on the examination of the breasts as a means of diagnosis of pregnancy, and that the fallacies attending the deductions made therefrom are not so considerable as is usually imagined. He urges the fact that an examination of the breasts is often practicable when no other examination is admissible, and that the breasts offer changes of a distinguishing character at a very early period of pregnancy. The various changes are then systematically examined, one by one, and the particular value of each designated. The more important results are summed up as follows:—1. Both breasts should be examined. 2. Any of the mammary signs may be found absent in an individual case, but the instances are rare in which all the mammary signs are absent at the same time. 3. The mere enlargement of the breasts, as apparent to the eye, is of no value in the diagnosis of pregnancy, while the sensations imparted to the finger by the hypertrophied condition of the proper gland structure is of considerable importance. 4. The pain is the least valuable of the mammary signs. 5. The enlargement of the veins is a very important sign, especially when the enlargement is considerable, and, above all, when the veins traverse the areola; as far as he has at present noticed venous branches traversing the areola are characteristic of pregnancy. 6. The white streaks or scars are conclusive evidence of a present or former pregnancy, and in the generality of cases it is an easy matter to distinguish whether they are the product of a previous or present gestation. 7. The increase of the diameter is most important in primiparæ. 8. The increase of the colour of the areola is most important in the latter months of pregnancy and in primiparæ. 9. The raised condition of the areola is characteristic of pregnancy, and is most frequently present in primiparæ. 10. A shining appearance of the areola, like polished mahogany, is very characteristic of pregnancy. 11. The secondary areola is a conclusive sign, and is generally most distinctly marked in primiparæ. 12. The nipple is of no or very slight importance in questions of pregnancy. 13. The branny scales on the apex of the nipple, though not characteristic of pregnancy, are of great value if they exist in large quantities, and if a small amount of fluid can also be expressed from the nipple. 14. The mere projection of the follicles is of no importance, unless they are present in a large number, but are conclusive evidence of pregnancy if they contain sebaceous material. 15. The areola should be placed on the stretch in doubtful cases (*a*), because if no follicles are present, others may be brought into view by this means; and (*b*) if follicles are present with an apparent absence of the sebaceous matter, the artificial extension of the areola may make that secretion visible. 16. In multiparæ the most important mammary sign during the early months of pregnancy is the sebaceous-containing follicle. 17. In primiparæ the most important signs during the early months are the presence of milk in the breasts and the raised condition of the areola. 18. The mammary signs do not assist us much in determining the period of pregnancy at which a woman has arrived.

A point to which the author has paid particular attention, and in which his conclusions somewhat differ from those ordinarily received, relates to the "follicular glands" of the areola. He has noticed five varieties of these:—1. The vesiculoid, which are small vesicles, in clusters of two, three, or more, the clusters arranged more or less concentrically. 2. The pustuloid, much larger, not in clusters. 3. The papular, small, like little pimples; they do not contain sebaceous material. 4. The mastoid variety, large, like little nipples, few in number. The vesicular and pustuloid varieties are, he believes, conclusive signs of pregnancy. It is the presence of the sebaceous secretion, peculiar to them, which makes them conclusive evidence. The 5th variety of follicles escape notice unless the areola is put on the stretch; they lie close to the nipple, and resemble the ultimate saccules of a vesicular gland. They are also evidence of pregnancy. The varieties numbered as 3 and 4 are not evidence of pregnancy. The author believes that the idea that the follicles communicate with the lacteal ducts has no foundation. Six coloured plates illustrate the points relating to the follicles.

TAYLOR, Dr. ISAAC E.—*On the Non-shortening of the Supra- and Infra-vaginal Portion of the Cervix Uteri up to the end of Pregnancy.* Am. Med. Times, June 21st, 1862.

The author gives the results of an examination of the os and cervix during pregnancy in 150 cases. His conclusions are, that the cervix uteri—supra- and infra-vaginal portion—does not unfold or lose itself during gestation in the body of the uterus, and the cervix thus become obliterated; that the cervix uteri is not lost or merged into the vagina, by dilating from below upwards, and becoming obliterated at eight to eight and a half months, as Stolz, Chailly, and others, believe; but that it remains its natural length; that the whole cervix uteri—supra- and vaginal portion—remains intact up to the full time of pregnancy, and sometimes during the first stage of labour; that the shortening, as it is termed, is only apparent to the touch, and that it is the increased breadth of the cervix which conveys the impression in question; that in primiparæ the finger cannot be introduced into the external os uteri, but in exceptional cases it may reach half way to the internal os; that the so-called "plug" does not remain to the full term, but is changeable from time to time; that the more perfect the softening, the shorter the labour.

SCHULTZE.—*The Umbilical Vesicle a constant Constituent of the Secundines of the fully-developed Fœtus.* Leipsic, 1861, Engelmann, pp. 18.

In 150 specimens examined it was found that in 146 the umbilical vesicle was to be detected in the secundines of the fœtus at term, and in most cases the omphalo-enteric duct was visible to the naked eye, and the author believes that its presence is constant. Generally it was found to lay out beyond the border of the placenta, rarely within the circumference of the placenta. The author considers the fact important, as a possible element in the explanation of certain cases of malformation of the fœtus and of certain anomalies of the amnion and umbilical cord.

ARBEITER.—*On the Continuance of Independent Activity in the Uterus after the death of the individual.* Bayer. Aerztl. Int. Bl., 1861, H. 2.

A patient pregnant for the fifteenth time was attended by a midwife at the full time. Presentation—head, arm, and funis. Death of the patient, undelivered, twenty-four hours after commencement of labour. The author was called to the patient, and arrived when she was dead. The uterus was not to be felt as a compact body through the abdominal walls. He turned and delivered the child, and, introducing the hand, found rupture of the uterus and vagina had been the cause of death, the intestines protruding through a large rent. Now, on examining externally, a hard, firm tumour was found, caused by the contracted uterus. From the time of the death of the woman to that at which this contraction was detected an interval of fully an hour had passed over. The deduction drawn is that the contractility of the uterus may persist for a considerable time after death, and the facts of the case further show the possibility of spontaneous delivery after death.

KLOB.—*On the Migration of Ova.* Wien. Wochenbl., xvii, p. 40, 1861.

The fact that occasionally, when the uterus is duplex, and in some cases of Fallopian pregnancy, an ovum is found in that half of the uterus opposite to the ovary in which the corpus luteum is met with, has been explained by supposing that the ovum migrated, after passing into the uterus from one side to the other. The author contends that in such cases the ovum really enters on the side on which it is found; that the Fallopian tube of one side becomes, under such circumstances, the recipient of the ovum from the opposite ovary. This opinion is justified by a case reported by Rokitansky, in which the corpus luteum was found in the left ovary, while the left Fallopian tube was adherent in such a manner that there could be no doubt that the right Fallopian tube must have been the means of conveying the ovum to the uterus. Further, in post-mortem examinations the coexistence of long tubes and movable ovaries is far from uncommon. The explanation of Kussmaul, that there is a migration in the uterus due to spasmodic contractions of this organ, he considers inadequate and erroneous.

MITCHELL, Dr. ARTHUR.—*Plural Births in connexion with Idiocy.* Med. Times and Gaz., Nov. 15th, 1862.

The author, having had officially to examine and report on a large proportion of the idiots in Scotland, was struck with the fact that so frequently it was stated that the patient was one of twins. The subject was, therefore, carefully examined. In 494 cases of idiots or imbeciles the result was as follows:—Information deficient in fifty-one cases; information defective on some points, good on others, seventy-nine. Of

443 cases, the idiot was twin-born in eleven cases; thus every fortieth idiot was found to be one of twins. The data respecting the frequency of twin births and the mortality of twins lead to the conclusion that in finding every fortieth idiot one of twins we have a much higher proportion than holds respecting the general population. The author finds further that there occurs among the relatives of such idiots a marked frequency of twin births; and still further, that even among the relatives of those idiots who are themselves single born there occurs an unusually large number of plural births. Four times, in fact, one or other parents of the idiot was twin or triplet born; 32 of the 443 mothers had borne twins once, twice, or more frequently; 43 of the 443 families presented twins, more or less frequently, born by mother, grandmother, aunt, or sister of the idiot. These figures, from a variety of causes, represent an under-statement, and from this they derive additional weight. When compared with single births, the whole history of plural births is exceptional; they are more fatal to the mother; they represent a larger proportion of dead-born children; the mortality of the offspring in infant life is greater; premature deliveries are more numerous; abnormal presentations and the necessity for instrumental assistance occur more frequently; the children are smaller, and are apt to be unequally developed. All these points of difference are far from indicating vigour; on the contrary, they lead us to anticipate in twin children feebleness of constitution and imperfect development. The author then directs attention to some of these points more particularly, substantiating their truth by reference to statistics in standard works on obstetrics. In the aggregate, the facts prove that when woman ceases to be uniparous it is to the disadvantage of herself and offspring, and especially to the disadvantage of the latter. It is the departure from a design of nature, not seemingly under control. Everything in the history of twin children indicates low vitality, feeble organization, and imperfect development; and this, apart from the risk of injury they are peculiarly exposed to during parturition, leads us to expect in them frequent occurrence of nervous disorders. Woman was clearly intended to bear only one child at a time, and the wider the departure from this intention the more marked is the consequent calamity. If we turn to triplets and quadruplets, we find the proof of this. Among them premature births are still more frequent, the number of dead children greater; of those born alive, only a few reach maturity. Personally, the author knows of only one triplet case where all three reached adult life. One of these three (all men born fifty years ago) is lame, one had double rupture, all three are eccentric. In one the eccentricity is spoken of as insanity; he alone is married, and one of his children is a complete idiot. In another case two of triplets reached maturity, both women, both married; one is barren, the other bore two children with spina bifida, and a third anencephalous. Plural births have been thought to indicate an excess of reproductive function, but it appears to indicate in many cases deficiency of reproductive energy. It must be looked on as a misdirection or error in reproduction, and it is doubtful whether in any case it is correctly spoken of as indicating high reproducing qualities. It is both strong and weak; apparently strong at one

time and defective at another, or rather, weak at all times, since an error in any process is practically weakness, whether it lead to overdoing or underdoing in the results. The proof of strength and perfection in any process is a good result, steadily produced; the proof of weakness is a bad result, and uncertainty in the character of the badness augments the badness. Twin children should be treated with peculiar care after birth and for the first few years of life.

STEINBACH.—*On the Diagnosis of the Sex of the Fœtus.* Mon. f. Geb., Dec., 1861.

The author remarks that since Frankenhäuser's observations were made known they have been much opposed. It is only by a long course of observations that it can be determined whether Frankenhäuser is right or wrong in his opinion that a low average of the cardiac pulsations in a fœtus indicates presence of a male fœtus, a high average the presence of a female. At the Lying-in Hospital of Jena the author has made observations which are here given as a contribution to the settlement of the question. The number of cases observed was fifty-six. Out of the fifty-six cases a wrong diagnosis was made only thirteen times, the errors being such as the author more particularly investigates subsequently. He states that in order to arrive at the truth it is necessary to examine the woman repeatedly, in order to obtain the mean number of beats in the case before us; and carrying out this plan, he employed auscultation twice a day from the time of the patient's admission till delivery took place. Several cases were thus observed during more than a month. Others were under observation a shorter time. It was found that with the advance of pregnancy there is no diminution in the frequency of the pulse. The beats were counted during times of a quarter of a minute each, the mean of the different results being taken as the true one. There are considerable variations observed, but by continuous observation these variations are equalised. The limitations fixed by Frankenhäuser are not quite identical with those of the author. Thus, while Frankenhäuser gives 136 as an extreme number, the author's numbers oscillated between 133 and 143; the mean number for boys being 131, that for girls 144. He does not think it necessary to rely on a particular number, there being slight variations to the extent of from one to ten beats in particular cases, and slight errors are unavoidable. Are we to rest content if we find that the higher numbers indicate girls the lower boys? The answer to this is that in cases with the lower numbers the variations are more frequently up to 140 or beyond than below the mean 131, and it is evident that more reliance could be placed on the low average as diagnostic of males if there were more frequently observed a diminution below 131. In the next place the author deals with the difficulties and sources of error encountered in the investigation. These depend on the observer himself, the individual under examination, and the fœtus, and not rarely on all three of these. The attitude of the observer should be easy, that of the woman also; and dyspnœa, nervous dread, irritability of parts about the uterus by which the muscles are set in action, sounds generated in the intestinal canal, the sound of the respiration, the sound of the abdominal aorta beating, and that of the placental bruit, all these may interfere with the accurate distinguishing of the fœtal heart-beat. On the part of the fœtus the difficulties encountered arise from the reflex movements often excited by the position of the mother, by the application of the stethoscope or the ear, and which give rise to rapid action of the fœtal heart; occurrence of considerable differences with frequency of the fœtal pulse, without assignable reason, and dependent on unknown conditions of the fœtus or mother; sudden occurrence of murmur in the funis, rendering the heart-beat inaudible, and altering its rapidity; lastly, the change in the double beat, by which is meant that at one time the first, at another the second, sound is most distinctly heard. With respect to the thirteen cases in which the author's diagnosis proved inaccurate, they are thus commented on:—In the first a girl was believed to be present, beats being 141; this turned out to be a case of twins, the twins both boys. This case should therefore be excluded; so also Nos. 2 and 3 where there occurred unexplainable variations, the series of single numbers would have given correct results, but the mean gave fallacious indications. In Case 4 the mean frequency was 145; the mother was suffering from tabes dorsalis, and her average pulse was 92. In Case 5 the mother was the subject of chronic metritis; the mean fœtal pulse was 145, that of the mother 97. In these two cases a girl was diagnosticated, but it seems probable that the quickened maternal circulation had its effect in inducing the error, although these two cases are not sufficient to determine this point. In Cases 6, 7, 8, and 9, the mean fœtal pulse was 131, 147, 135, 136. There was a murmur in the funis constantly present. In Case 6 the cord was found at birth coiled twice and in Case 7 coiled once round the neck. In Cases 8 and 9 there was a murmur of like character always present, but no coiling of the cord. In Cases 6, 8, and 9, boys were expected, but girls were born; and in Case 7, when a girl was expected, the reverse occurred. These four cases show, at all events, that pressure on the cord may be an obstacle in the way of the diagnosis. In Cases 10, 11, 12, and 13, the observations extended over a short time only, and there is no other explanation to give of the erroneous diagnosis arrived at. In conclusion, the author gives other causes of fallacy—too short period of observation, the last days of pregnancy, insufficient care, several pregnancies, cases where the frequency of the pulse may correspond to either sex, diseases of the mother, pressure on the cord, and cases which are as yet insusceptible of explanation.

HENNIG.—*On the Frequency of the Fœtal Heart-beat.* Wien. Med.-Halle, ii, p. 34, 1861.

The author gives the result of a series of observations made systematically in a case of pregnancy from an early period. The observations were made early in the morning, usually before rising, and only after the woman had rested quiet for some time. The fœtal heart was first heard in the fourteenth week. The results were—

12 Observations from 12th to 18th week, 1653 beats = average 138
15 „ „ 23rd to 27th „ 2125 „ = 142
6 Evening observations, average 141
16 Observations from 28th to 32nd week, 2433 „ = 155
6 Evening observations, mean 140
17 Observations from 32nd to 40th week, 2404 „ = „ 141
10 Evening observations, mean 136.

A curve would thus represent the frequency of the heart-beat, the curve being deepest during the interval between the fourth and eighth month.

The child was a male, and some observations made after birth showed that the heart continued to beat oftener in the morning than in the evening, as had been the case during its intra-uterine life.

HÜTER.—*On the Fœtal Pulse.* Mon. f. Geb., supplementary part, 1861, p. 23.

Considering that still-birth is occasionally due to too great duration of labour, the author puts to himself the question, how long should we wait before applying the forceps, in cases where the forceps are applicable? And in order to answer this question, he resolved to investigate anew, as a necessary preliminary, the relation of the fœtal pulse. Authorities differ on this point materially. Observations were undertaken at the Lying-in Institution at Marburg, the method of Schwartz, viz., counting the number of pulsations during an interval of five seconds, being the one adopted. The observations, 1195 in number, were made at periods of pregnancy from one week to nineteen weeks before labour set in; the results of observations in each of the intervening weeks are minutely set down, and note is made as to whether the fœtus moved or not during the observation. In 825 observations the number of beats was 11 in the five seconds; in 310 the number of beats exceeded 11, but in 73 of these latter the frequency was attributable to movements of the fœtus. In 60 cases the number of beats was under 11, but never less than 10. Hence the general result, that 132 is the figure which represents the number of beats of the fœtal heart per minute. Further observations gave this result, that the number of beats during the commencement of labour, and previous to that time, was identical. The per-centage of frequency is thus expressed:

12	Beats per five seconds in	10	per cent. of	cases.
11	„ „	83	„	„
10	„ „	7	„	„

The author states that his results slightly differ from those obtained by Schwartz, his own figure being 11, that of Schwartz 12. Is this difference, he asks, attributable to the fact that Schwartz's observations were made at Kiel, the northern extremity of Germany, and his (Hüter's) in a different locality, much further to the south? The differences in the statements of other observers might possibly have a corresponding origin. When, in a particular case, the normal number of beats is eleven, and we find it to be raised to twelve, this is in association with movements on the part of the fœtus; and if these movements are excessive, the number of beats may rise to fifteen, and, indeed, may be uncountable, from excessive frequency, for a few moments, returning after a time to the normal number. The mere statement of the patient in reference to presence or absence of movement of the fœtus must not be depended on; auscultation and palpation must be resorted to in order to ascertain the presence or absence of movement. That the number of beats may be raised independently of fœtal movements the author admits, but he has only observed a persistent increase in the fœtal pulsation in cases where the woman was the subject of inflammatory attacks, especially of the thoracic viscera. The details of five cases are then given, in which the mothers were the subjects of serious disease, and the effect produced upon the fœtal pulsations noticed. The deductions drawn are apparently, but not really, in opposition to those of Hohl's. Hohl found that the effect of the presence of inflammatory diseases of the mother was to diminish the frequency of the fœtal pulse, to make it intermittent, &c. Hüter considers that the first effect is acceleration; the retardation occurring later, and being indicative of the fact that the life of the fœtus is in jeopardy. He has not observed in any case presence of inflammatory disease on the part of the mother with absence of acceleration of the fœtal pulse. He considers it doubtful whether the fœtal pulse is elevated in frequency by movements of the mother, that is to say independently of movements of the fœtus thereby likely to be excited. He does not believe, as contended for by Hohl, that diminution of external temperature affects the frequency of the fœtal pulse. Neither has he found the fœtal heart-beat influenced by the hour of the day. It was Hohl's opinion that the younger the fœtus the more frequent is the pulse. Dubois's, Naegelé's, and Depaul's opinion was that there is no material difference at different periods of fœtal life, and Hüter confirms the latter view of the case. The opinion of Frankenhaüser, that the sex of the fœtus influences the number of beats, has been disproved by the more extended observations of Breslau, Hennig, and Haake. The author remarks that he has never failed to detect the fœtal heart-beat in the sixth month, and later, when the child was alive. The so-called funic souffle he has heard in 9 cases out of 200. He confirms the statement of Hohl, Stoltz, Cazeaux, Kilian, and Kiwisch, that the frequency of the fœtal pulse is considerably increased during labour, irrespective of fœtal movements. In many cases this may be due to febrile conditions on the part of the mother. The frequency may be increased, irrespective, however, of fœtal movement or maternal febrile condition, and may be produced by febrile disturbance of the fœtus itself. To prove this, three cases are related, one by Hohl, one by Depaul, and one by the author himself. Acceleration of the fœtal pulse, setting in at the end of tedious labours, is a highly dangerous symptom; the fact that fœtal movements are at the same time observed must not lead us into error, for the frequency continues after the movements cease. The author considers it probable that this acceleration is due to the slightly asphyxiated state of the child inducing the necessity for breathing; some respiratory movements may occur, air obtaining access to the mouth through the generative passages; but the quantity being limited, the respiratory movements are laboured, and the frequency of the heart's beat thus increased. It is difficult to prove this post mortem, air being often artificially introduced to resuscitate stillborn children. It is more common that during labour the pulse remains unaffected, but the most common event is that the number of pulsations become diminished. In fact, the latter must be regarded as the rule. Depaul fixes 100 as the limit of this normal retardation of the fœtal pulse, and if the pulse sinks below this it betokens danger to the life of the fœtus, especially if it can be made out during the intervals of the pains. With the diminution in the frequency of the pulse occurs a diminution in its force, especially in respect to the second sound. The passage of meconium is, besides the employment of auscultation, the only sign of fœtal life being endangered. Ergot should not be given except when the fœtal pulse is quite regular. The author's observations in respect to the effect of the pains in producing diminution of the frequency of the fœtal pulse, are:—In 200 labours it was noticed 162 times; in 69 cases it first occurred in the dilatation stage; in 39 of these it resumed its normal frequency during the intervals of the pains; in 30 the normal frequency did not return during the remainder of the labour, the frequency becoming less and less. In 93 cases the influence of the pains in thus diminishing the frequency was not noticed until the expulsive stage of labour; in 64 of these with normal frequency during intervals, in 29 not so. Thus, in 19 per cent. of labours frequency not affected; in 81 per cent. frequency diminished. The explanation of this difference is to be found, the author believes with Schwartz, in the varying concomitant circumstances which he specifies.

The diminution in frequency, being a sign of danger to the life of the child, must be looked for, and action taken accordingly. In breech and footling cases auscultation must be frequently employed to ascertain the condition of the pulse, and the fœtus extracted at once, if necessary. Since the author has recognised the value of the sign in question he has practised shortening the duration of the labour by means of the forceps much more frequently than before, and the result in the Marburg Hospital has been that the number of still-births has materially decreased. It is always important to ascertain the frequency of the fœtal pulse at the beginning of labour, in order to have a standard of comparison.

LÜCKE.—*On the Origin and Growth of Tumours during Pregnancy.* Mon. f. Geb., April, 1862.

The author finds that tumours, unconnected with the genital organs, undergo a rapid increase during pregnancy, that this growth is most vigorous from the sixth to the seventh month of pregnancy. Seven cases are related to prove this.

PELVIMETRY.

GERMANN.—*On Internal Pelvimetry, with a Description of two new Instruments for this purpose.* Mon. f. Geb., supplement. vol. for 1862.

Germann says that the practice of internal pelvimetry is objected to by most obstetric authors; he, however, thinks it of great importance and utility; and, after remarks in support of this opinion, he describes, with the help of plates and diagrams, the instruments which he has devised for the purpose.

Referring to the questions of pelvic measurement, which may be solved with more or less exactness by his two instruments, Germann says that one of them, resembling in its external form Baudelocque's callipers, may be employed for the following purposes :—1. To ascertain the measurements which are usually made with Baudelocque's instrument, the measurements, however, being expressed in Germann's pelvimeter in centimètres as well as in Paris inches and lines. It may also be applied to determine the form of the pelvis by external measurement, and also to ascertain the depth of the pelvis. 2. Certain measurements, which cannot be made by Baudelocque's callipers, may be made by Germann's instrument, viz., the thickness of the vertebral column in the region of the promontory of the sacrum; the thickness of the symphysis pubis and of the mons Veneris; the semi-external conjugate diameter and, as far as possible, the distance of the sacrum from the acetabulum; also the diameter between the lateral walls of the pelvis, and hence as far as possible, the transverse diameter of the cavity. By introducing one arm of the instrument into the urethra and bladder, the thickness of the abdominal wall in this part may be measured; and hence indirectly an estimate may be formed of the breadth of the head and the length and breadth of the body of the fœtus. 3. The points especially determinable by the instrument, according to Germann, are the depth of the symphysis pubis, the length of the true conjugate diameter, and the size of both the angles which the diagonal and true conjugate diameters form with the symphysis pubis, also the direct transverse diameter of the pelvis and the degrees at which the pelvic cavity is inclined with respect to the plane of the brim and the posterior wall of the pelvis to the symphysis pubis. 4. The male catheter attached to the instrument may be used with good effect, not only as a catheter, but in exceptional cases for injecting the uterine cavity. The silk thread attached to it is useful for measuring the circumference of the new-born child's skull and of the pelvis, and also in turning. In exceptional cases also, and in the temporary absence of better instruments, one arm of the instrument may be employed for replacing the umbilical cord when prolapsed, and for other purposes. The objects of the other instrument are twofold:—1. It fulfils the same objects as are detailed above under (3), controlling the results obtained by the first instrument. 2. It enables the observer to determine the angles which the plane of the brim forms with the perpendicular axis of the body and with the horizontal plane.

To describe with any degree of perspicuity the precise nature of the instruments in question would be difficult without the aid of drawings, of which several are appended to Germann's paper.

MECHANISM OF DELIVERY.

HALAHAN, Dr.—*On the Mechanism of Labour.* Dub. Quart., May, 1862, p. 467.

The author has tabulated the results of 500 recent cases, as to the manner in which the head entered the pelvis. First position of Naegelé in 61 per cent., second in 1 per cent., third in 6·40 per cent. Primary third changed to second in 25·20 per cent. Total third position, 31·60. Fourth position, 1 per cent. Primary fourth changed to first, 5·40 per cent. Total fourth position, 6·40 per cent. of the cases.

UNUSUAL LOCALITY OF PREGNANCY.

Scott, Dr. Walter. — *Case of Extra-uterine Fœtation.* Lancet, Aug. 2, 1862.

A poor woman, æt. 42, who had had ten children, last child born three years before, had experienced irregularity in menstruation, and had for two months "seen nothing." She complained of abdominal pain and constipation only. Four days after she became unwell, as was supposed, and lost much blood. After rest in bed a few days this abated. A few days later she became suddenly collapsed, pulse imperceptible, throwing arms about, and died in half an hour after being seen. The abdomen contained much clotted blood, proceeding from two or three ruptured veins. These veins were in a plexus of vessels covering the Fallopian tube on the right side, at which situation it was enlarged to the size of an egg, and contained an amnionic sac and a perfectly formed fœtus one and a half to two inches long. The uterus was nearly four times its natural size, and was lined by a finely villous membrane (decidua?).

Tufnell. — *Extra-uterine Fœtation; Twin Conception from the same Ovary; normal descent of one Fœtus into the Womb; arrest of the other in the Fallopian Tube; escape from thence by Ulceration into the Cavity of the Abdomen, followed by Hæmorrhage and Death in twenty-four hours.* Dub. Quart. Journ., May, 1862, p. 462.

The patient had seven years before given birth to a living child. Again pregnant, at between three and four months she was seized with severe and sudden pain in the lower part of the abdomen while getting into bed. She had walked during the day upwards of four miles. When seen, soon after, she had a weak pulse, a pale, anxious, and pinched countenance. There was great pain in the umbilical and right iliac regions. She died twenty-four hours after. Three or four quarts of fluid and clotted blood were found in the abdomen, with a small fœtus floating therein. There was a rent in the right Fallopian tube, and a cyst from which the fœtus had escaped. Right Fallopian tube and ovary agglutinated. Fœtus one inch long. The uterus contained a healthy male fœtus, proportionate to the date of conception. The cystic cavity in the right Fallopian tube contained a solid, organized mass, like a miniature placenta. There were two distinct corpora lutea in the right ovary.

Brandt, Dr.—*Extra-uterine Pregnancy.* Ed. Med. Journ., Sept., 1862.

The subject of this unusual case was born in 1778, married in 1795. Confined of her first child in 1796; five years after, she had a second child. Three years after (1804), she was a third time pregnant, but was never delivered of the child. She became pregnant a fourth time in 1808, and was delivered of a son. A fifth pregnancy equally terminated regularly. She died in the year 1858, at the age of eighty. A bony tumour was removed from the right side of the uterus, involving the Fallopian tube of that side, weighing four pounds, and measuring eight inches long and sixteen inches round. The bony tumour was a bony cyst containing a fœtus. The fœtus was twisted, the head crushed so that the bones overlapped, the whole of the cranial bones apparently ossified; the upper jaw had three teeth on one side, one of which appears to be the second molar; corresponding depressions on the other side. The fœtus was placed so that its whole body was twisted from left to right. The fœtus had remained in the body of the patient for fifty-four years.

Hicks, Dr. Braxton.—*Two Cases of Extra-uterine Fœtation treated by Abdominal Section.* Guy's Hosp. Rep., vol. viii, p. 127.

In Case 1 the patient was thirty-two years of age, mother of one child eight years old. She had for some weeks had severe pain in the abdomen, paroxysmal and forcing pains in the vagina, as of the head of a child coming down; difficulty in defæcation; slight occasional discharge of blood per vaginam. Breasts had secreted milk plentifully. A large globular tumour, size of uterus at four months, occupied the vagina low down; os and cervix high up, soft, enlarged, and apparently blended with the tumour. The condition was considered to simulate pregnant retroverted uterus. From that time the tumour began to ascend above the pubes, and took the form and position of intra-uterine conception. Fœtal movements were felt. When seen a second time, at the end of ten months, there was a central abdominal tumour present, extending two inches above the umbilicus, globular, elastic, and fluid within. Aperture of os uteri did not admit a small wire. Ballottement was indistinctly perceivable. Abdomen tender; no fœtal pulsation. Eight days after, the tumour subsided in size suddenly; vomiting and purging of very fetid fluid occurred. Twelve days later, tumour was resonant, more spread out. After waiting some time, owing to the patient's critical condition, an incision three inches long was made above the pubis, and the fœtus extracted. The cyst contained much fetid fluid. There was no adhesion at the point of incision. Death took place twelve hours afterwards. The sac was adherent to the uterus and to the parts adjacent; the precise kind of gestation present was not made out. In Case 2 the patient, æt. 40, had had several children; there was extra-uterine fœtation of four years' standing; a communication was formed between the cyst and the bladder, and cystitis followed. The fœtal bones were removed by abdominal section, and the patient recovered. In this second case there was complete adherence at the seat of the incision. The author discusses at length the best method of proceeding in cases where the cyst is not adherent. He believes that when the patient is in good health it is best to wait and watch till symptoms arise; that when communications form between the cyst and intestine an early abdominal section is best, great care being taken to prevent fluid passing into the peritoneum; that if the bones are passing by any channel, this passage should be assisted; that the formation of an opening into the bladder does not contra-indicate an operation.

RETROVERSION OF GRAVID UTERUS.

PAJOT.—*Retroversion of the Gravid Uterus.* Gaz. des Hôp., Feb. 22nd, 1862.

A woman, who had menstruated last four months previously, presented herself for relief from retention of urine, which had existed for some days. The bladder having been relieved, the uterus, enlarged, was felt in the pelvis. The os was carried up behind the symphysis, the lips slightly softened, its orifice a little dilated. The breasts showed a well-marked areola; the uterus, examined by the rectum, was felt to be enlarged, and situated in the sacral fossa. The diagnosis was retroversion of the gravid uterus. Chloroform having been given, and the patient placed on her back an instrument consisting of a wooden stem, furnished at one end with a tampon, rounded so as not to injure any of the soft parts was thus used: one finger in the vagina held the os, while pressure was made by means of the instrument introduced into the rectum against the body of the uterus, which was in this manner pushed into its proper position.

BRUCE, Dr.—*Retroversion of Pregnant Uterus.* Ed. Med. Journ., Nov., 1862.

The patient thought she was pregnant, the os was with difficulty felt high up, the mass of the uterus forced down in the perinæum. Dr. Keiller manipulated with the hand in the vagina, the thumb in the os, and the finger pressed against the tumour, the patient being under chloroform: the uterus was reduced with a jerk. Five months after, she was delivered of a living and healthy child.

ABNORMAL CONDITIONS OF PELVIS.

OLSHAUSEN.—*Obliquely Distorted Pelvis, with Sacro-iliac Anchylosis; with Remarks on Simon-Thomas's theory of the Origin of this Deformity.* Mon. f. Geb., March, 1862, p. 161.

A careful description is here given of a pelvis presenting this deformity, with drawings of the same. The woman died of rupture of the uterus during delivery. The pelvis is of medium size, the left sacro-iliac synchondrosis is anchylosed, and the sacrum and iliac bones perfectly continuous. The measurements of all the bones are minutely given. The measurements of the pelvis are as follows:—The inlet forms an oval, the greatest diameter of which is from the anchylosis to the middle of the right horizontal ramus of the pubic bone. This diameter measures 4″ 11‴. (Paris inches and lines); the short measurement of this oval is 3″ 3½‴; antero-posterior diameter, 3″ 10‴; right oblique diameter, 3″ 3‴; left, 4″ 11‴.

The general question as to the origin of the deformity is discussed at length. The conclusions arrived at are expressed as follows:—It is probable that in some cases the theory of Simon-Thomas and Martin, which assigns the origin of the affection to extra-uterine life holds good, but that it is not true in the majority of cases. The anchylosis is not necessarily present at the time of birth; probably the defect of the lateral part of the sacrum is that part of the affection which is congenital. The author accepts Litzmann's explanation of the occurrence of the anchylosis, which is that it is due, as is also the peculiar shape of the pelvis in these cases, to the pressure upwards from the hip-joint on the affected side.

Naegelé's view was that the anchylosis is congenital and the primary evil; Simon-Thomas's opinion, which is opposed to this, is, however, so far correct.

BRESLAU.—*A new case of Spondylo-listhesis of the Pelvis; Incomplete Delivery; Death of Mother and Child.* Mon. f. Geb., Dec., 1861.

The subject of the case, a primipara, æt. 43, was admitted, April 18th, 1861, into the Lying-in Hospital, with a letter from her attendant, stating that the outlet of the pelvis was contracted in all its dimensions, and that the impending labour would probably be a difficult one. Labour had not set in. On examination no anomaly of the pelvis could be discovered; there was no sign of commencing labour; labour set in the next night. Her answers indicated that pregnancy had advanced to the thirty-sixth week. Pelvic measurements were now made; the woman was four and a half Paris feet in height; extremities not deformed; she was muscular, bones large; the vertical column was affected with angular curvature in the lumbar region, the extent of the same being about 4″; the spinous processes not distinctly felt; the sacrum unusually prominent; what appeared to be its superior spinous process, but which after death proved to be that of the last lumbar vertebra, was very prominent. There was no cicatrix in the skin covering the part. From the upper border of the pubic symphysis to the point of the most prominent spinous process (measured by Baudelocque's callipers) the distance was 6″ 6‴ (nearly seven inches English measurement). When the posterior limb was placed in the excavation above, the distance was 6″. The finger introduced into the vagina encountered, without using any considerable effort, the posterior bony wall of the pelvic inlet, but it was doubtful whether this was the true promontory or a false one. From the sub-pubic ligament to the point felt by the finger measured 3″ 6‴ ($3\frac{3}{4}$ inches English). By passing in the second finger it was ascertained that the bony point felt posteriorly formed a sort of roof-like projection over the part of the sacrum immediately below it. The impression thus conveyed was that the case was one of exostosis of the pelvic inlet. The general result of the examination was that the conjugate diameter was narrowed, measuring not quite 3″ (about $3\frac{1}{4}$ inches English), that is, subtracting from the external measurement $3\frac{1}{4}$″ and from the internal measurement 8‴; and that even supposing the fœtus to be immature, considerable difficulty was to be expected in the delivery. As regards the kind of deformity present, the diagnosis lay between rachitis, exostosis, and spondylo-listhesis; the probable diagnosis was in favour of the latter, the result of the external as well as internal examination allowing of this view of the case. The patient had had a severe strain while carrying a burden at the age of seventeen or eighteen; this was followed by severe pain in the back, consequent on which the spinal deformity appeared; this favoured the accuracy of the diagnosis made. It seemed probable that the body of the lowest lumbar vertebra had sunk forwards and downwards over the superior part of the sacrum. At 11 a.m. on the 19th the os was the size of a thaler; the presentation could not be felt; pains regular and strong; fœtal heart distinctly heard; exploration not easy, owing to tightness of the passages. The author now regrets that he did not perform the Cæsarean section at this period of the labour. A series of unfortunate incidents, however, next occurred, which rendered the operation scarcely admissible. At 2 p.m. the waters escaped, the os being still not quite dilated. Meconium and fluid came away together, and the funis became prolapsed into the vagina, still felt pulsating. The head was distinguished with some difficulty as presenting, still high up and at the right side of the pelvis. Reposition of the cord was evidently useless with the head in this position. The alternatives were turning on the feet, with subsequent extraction of the head by dragging, or by use of forceps, or perforation, or cephalotribe. Under chloroform turning was attempted. The right hand was introduced on the left side of the mother. The waters had now (half an hour after rupture) escaped entirely; the uterus firmly contracted; the os recontracted; pains severe, nearly continuous, spite of the chloroform; the funis still pulsating. The soft parts as well as the hard parts offered so much resistance to the introduction of the right hand that the left, the smaller, was tried. Moreover, the head being in the third position, the feet were to be sought for anteriorly. The patient lying on the right side, the left arm was introduced, and with much difficulty the right foot was reached; it was impossible to reach the left. The right foot was drawn into the vagina. No endeavour, however, succeeded in actually turning the child; the head could not be pushed back or the breech brought down, the uterus being so firmly contracted. The funis had now ceased to pulsate. During the attempts at turning a considerable hæmorrhage occurred, due, probably, to slight separation of the placenta. A pair of long forceps were now attempted to be applied, but they could not be locked. It was now considered advisable to give the patient some rest, the foot having been replaced, and pains allowed to act on the head. From 4 p.m. to 8 p.m. the pains, though very severe, did not affect the position of the head, which with difficulty was felt through the swollen lips of the os uteri. The pulse was now very quick, irregular, and there was a slight, continuous hæmorrhage; and it was evident that, unless speedily delivered, there was no hope of saving the patient's life. Dr. Spöndli saw the case at 9½ p.m., and thought it best to endeavour again to turn and also to diminish the size of the head. He endeavoured to turn, but it was found impossible; the right foot could be brought down, but no other part. The limb lying in the way of perforation, &c., it was cut across at the knee-joint, and removed. Scanzoni's cephalotribe was now introduced, but embraced such a small part of the fœtal head that it slipped twice. The trepan-shaped perforator was now employed; but the head being movable, the outer table of the skull only was perforated. The bleeding was now so great that further operative measures were necessarily for a time suspended, and the patient died undelivered at the hour of half-past eleven. After death the uterus was opened. The child lay in the third cranial position. There was no liquor amnii. The fœtus, a female, measured 17″, and weighed 5⅝ lbs.; it was fully developed; the head measured, horizontal circumference, 35 centimètres, the occipito-frontal diameter was 4¼″, the small transverse diameter 3″, the larger 3½″, the occipito-mental diameter 4½″. The placenta, seated on the posterior wall, was partly detached; the pelvic inlet was, as it were, divided into two parts by the projecting lumbar vertebra; at the narrowest part the measurement was 2″ 10‴. There was considerable mobility of the lumbo-sacral joint, so that the last lumbar vertebra could be pulled upwards and backwards some lines. The body of the fifth lumbar vertebra overhung the first and second sacral vertebræ very considerably. The last lumbar vertebra and the first sacral were greatly altered in size and texture. The most anterior part of the last lumbar vertebra had a softish consistence: the posterior part was much harder. The inter-vertebral cartilage of the lumbo-sacral joint was almost entirely gone; the lower and left angle of the body of the lumbar vertebra had been absorbed, and the upper border of the superior sacral vertebra. The superior sacral vertebra was 7‴ instead of 1″ 2—3‴ deep.

The author considers this kind of deformity of the pelvis a more difficult one to deal with than that produced by rickets. The head could not even enter or become engaged in the inlet. Owing to the constriction being in the conjugate diameter, with a rachitic pelvis, having the conjugate diameter of 2″ 10‴, the head can be reached by forceps, or other instruments more easily. Thus, whereas in a rachitic pelvis, with conjugate diameter of 2″ 10‴, the labour may be terminated with safety to the mother, this cannot be reckoned on in the distortion above described. Probably, under all circumstances, the Cæsarean section should be performed when the child is alive. With respect to the origin of the deformity, the author considers that it was due to the inflammatory softening set up by the accident alluded to above.

ABNORMAL CONDITIONS OF THE UTERUS.

FAYE, Prof.—*Uterus Duplex Bicornis cum Vagina Simplici. Two Deliveries, both effected by Podalic Version.* Norsk Mag., xv, p. 593. Schmidt, 114, p. 56.

In February, 1861, a woman æt. 39½ was admitted into the Christiania Lying-in Hospital, having been delivered for the second time three weeks previously. In 1856 she was delivered by turning at full term of gestation. In May, 1860, became pregnant a second time, and was delivered on January 31st, 1861, of a dead child, showing traces of putridity, and presenting transversely and requiring the operation of turning. Neither the midwife nor two medical men who were called in could deliver the placenta. She was attacked with peritonitis, and admitted into the hospital on the seventeenth day. A rounded, semi-fluctuating tumour occupied the hypogastrium, reaching beyond the umbilicus, and a smaller one to the right and above, which did not appear to be connected with the former. A rounded, tight tumour was found on vaginal examination occupying the pelvis on the left side especially, the finger passing higher up and more to the right than usual. At the lowest part of the tumour was a round, smooth, small spot, like the external surface of the membranes, limited by a well-defined border, and into which the hand could be easily passed. This was considered to be the os uteri. It was slit up, and a quantity of offensive fluid evacuated. The tumour in great part subsided. Three days after, peritonitis anew set in, and the patient died on the seventh day after the operation. After death some remarkable abnormities were discovered. The uterus was double, united below, the left uterus larger than the right. It was considered probable, from the appearances presented, that the pregnancy occurred in the right uterus; that the accumulation in the left uterus was the result of decomposition and destruction of a fœtus, or the result of a conception in that division of the organ; and further, that the enlargement in the left uterus began before the last pregnancy. It is further remarkable that there was only one kidney discoverable. The retained placenta seems to have disappeared during the patient's illness.

PLURAL BIRTHS.

Trier.—*Case of Twin Pregnancy in a Double Uterus.* Ugeskrift for Laeger, July, 1861.

The woman, æt. 22, menstruated last in September. In February a tumour was evident on the left side. Labour set in on April 15th. A broad and tolerably deep furrow was evident in the uterine tumour, dividing it unequally, the left being the smaller. On examination the os uteri was partly open, the membranes entire, the head presenting; pains weak. The pains increased on the 16th, and on the 17th the os was the size of a thaler. Membranes still entire; bones of the head to be felt to the left; above and to the right a rounded, hard part to be felt. Fœtal heart beat distinctly, heard below and to the right of umbilicus. At 2·30 p.m. in the afternoon a female fœtus, enveloped in its membranes and with a distinct placenta, was delivered, measuring 9¼″; weighing 18½ "loth," in a state of semi-mummification. The smaller side of the uterine tumour had disappeared. There was now felt at the os a second presentation of membranes and a fœtal head, and the finger could be passed as if into two separate chambers. A few hours later a second child was born, which, at first apparently stillborn, was resuscitated. It measured 15¾″, weight three and three quarter pounds, appeared eight or nine weeks under its full term, and died on the following day. Placenta of second child expelled in half an hour. The woman died eight days subsequently, of puerperal peritonitis, pleuritis, &c. The uterus was heart-shaped, was divided into two cavities by a partition, thick above, but thin below; the os uteri single externally, double internally. The ovaries contained three corpora lutea; two in the right, one in the left. The death of the smaller fœtus is considered by the author due to mechanical injury, the patient having overstrained herself in February. The complications of the case were such, the author remarks, that no extended conclusions can be drawn respecting the natural history of these very rare cases. Ergot, he believes, should not be employed, but the delivery hastened rather by turning or use of the forceps.

Brittain, J. Lewis.—*Repeated Twin Births.* Ed. Med. Journ., Nov., 1862.

In a case related by the author there had been fourteen pregnancies, and twenty-five children, twins having occurred eleven times. Of the eleven cases of twins, in eight both children were born at the full time; in two one fœtus was aborted about the third month, the other being carried to the full time; in one she miscarried of both at the fourth month. Of eight cases of twins born at full time, the sex was boy and girl five times; both girls twice; both boys once.

UNNATURAL PRESENTATIONS.

Martin, Dr. Joseph.—*The Mechanism and Treatment of Labours with Face Presentations.* Amer. Med. Times, Jan. 11th, 18th, 1862.

The author believes that cases of face presentations should not be left to the natural efforts, and he enters on an argument to prove that it is proper to interfere and alter the position of the head in such cases. He proposes that, in cases of face presentation, the face should be converted into a vertex presentation. He contends that there is much that is erroneous taught on the subject of the mechanism of this presentation. His explanation of the circumstance is that lateral obliquity of the uterus at the beginning of labour is the cause; that the head does not really enter the pelvis in the abnormal position; and that the chin is not, as has been supposed, extended from the beginning to the end of the labour. He proposes that the face should be converted into a vertex presentation in all cases, and he believes that if this plan were adopted the mortality of face-presentation labours would be lessened. The arguments used by recent writers against rectification in this manner are severally considered and replied to.

Ramsbotham, Dr.—*Clinical Midwifery.* Med. Times and Gaz., vol. ii, 1862, pp. 517.

The cases of transverse presentation which came under the author's notice during five years' practice (1840—1844) are here related. The author takes occasion to remark that, whenever the uterus has been contracting regularly and naturally during the first stage of labour, and ceases to act for some hours after the membranes are broken, provided the child lies so high that the presentation cannot be touched at all or only with difficulty, these two circumstances together are highly suspicious of the case being one of transverse presentation. He has on many occasions predicted that such would be the case before seeing the patient, and judging merely from the history furnished. Another point is that some women seem to be much more liable to these irregularities than others. One woman out of seven deliveries had two transverse presentations; and in another case a woman, with a small pelvis, out of twelve children suffered seven transverse presentations. Another who has had five children had four transverse presentations, and the pelvis is contracted in this case also. In cases where version is found difficult or impracticable in cases of arm presentation, the author considers it bad practice to take off the arm, because it is not the arm lying in the vagina which prevents the introduction of the hand into the uterus, but the shoulder blocking up the pelvic cavity, in a greater or less degree, and because, if evisceration or decapitation be determined on, the means of delivering the body by traction, which the arm would have afforded, is lost.

DISEASES, ETC., OF CHILD IMPEDING DELIVERY.

KEY, Dr.—*Protracted Labour from Hypertrophy of the Fœtal Kidneys.* Ed. Med. Journ., July, 1862.

The breech presented, the labour was tedious, pains weak and ineffective for three or four days. They then set in more forcibly; no progress being made, the leg was brought down and traction exercised, without avail. A blunt hook was passed over the other groin, and after using much force the two limbs were delivered, and half an hour later, with some difficulty, the rest of the body. The difficulty was found to have arisen from the belly being largely swollen, containing a pint of fluid, and a considerable enlargement of both kidneys, equal in degree on the two sides. One was weighed—eleven and a half ounces. The kidney (examined by Dr. Alexander R. Simpson) was found to be enlarged by presence of an excessive amount of inter-tubular substance only, giving the whole organ an unusually soft and succulent appearance.

ABNORMAL CONDITIONS OF PLACENTA, ETC. (see HÆMORRHAGE).

HÆMORRHAGE BEFORE, DURING, OR AFTER DELIVERY.

WILSON, Dr. J. G.—*Two cases of Concealed Accidental Hæmorrhage at the full term of Utero-Gestation.* Glasg. Med. Journ., Jan., 1862, p. 439.

In the first case, a primipara, æt. 34, the patient, on the eve of her confinement, was suddenly seized with great faintness and exhaustion; was found in a state bordering on syncope, with a small, thready pulse, and general pallor and coldness; she complained of dizziness, nausea, dimness of vision, ringing sound in the ears. No labour-pains, no external hæmorrhage. At right side of fundus was felt a prominent, distinct swelling, which was not previously observed; it had a doughy feel, and was the seat of a bursting sensation. The os only admitted tip of finger. The membranes were at once punctured and ergot given. In three hours labour came on, and in four hours delivery of a stillborn, anæmic child was effected by the forceps. Firm external pressure employed, and stimulants given during labour. Two or three large coagula followed the placenta, and the latter had a bell-shaped excavation on uterine surface, filled with coagulum. Patient slowly recovered. A second case is related, where death took place suddenly at full time, the patient undelivered. Sudden and alarming faintness, without escape of blood, had been the symptoms preceding death. The placenta was detached everywhere except at its extreme circumference, and the intervening cavity distended by a large quantity of blood partially coagulated.

Ramsbotham, Dr.—*Clinical Midwifery.* Med. Times and Gaz., vol. i, 1862, pp. 4, 54.

The author relates the particulars of a series of cases of unavoidable hæmorrhage which came under his notice in the year 1840 and in the four years subsequently. In the first twelve cases related, where the placenta presented in three, the breech, and feet were at the brim. Preternatural presentations of the fœtus are, he remarks, comparatively often complicated with placenta prævia. It is rarely that the infant is born alive after any profuse hæmorrhage at the commencement of labour. This is to be attributed, not to any loss of blood from its own system, but to its deprivation of oxygen during the period when the woman remains faint, at which time there is either a complete suspension of the circulation through the uterine vessels, or the circulation is so languidly carried on that the blood is not determined to the placenta in sufficient quantity or with sufficient vigour to maintain life. Alluding to the operation of turning, the author remarks that he has often experienced much difficulty in introducing the hand into the uterus when the case has been premature by one or two months, from a constricted ring within the os uteri, although that organ itself has appeared sufficiently flaccid to admit it easily. This he has attributed to the undeveloped state of the cervix, especially since he has found that the further from the end of gestation the labour has come on the greater has been the resistance opposed.

In the next series of cases—eleven cases of unavoidable hæmorrhage (p. 54)—several interesting particulars are noted. In the prognosis of uterine hæmorrhage it is remarked that a sense of constriction across the chest, as if a cord were drawn tightly round it, impeding the breathing, is a most dangerous symptom, and that a patient becoming the subject of it rarely recovers; jactitation almost always follows it, and frequently convulsions, preceding death. It appears to depend on spasm of the diaphragm, occasioned by the bloodless state of the vessels of that muscle. In some of the cases of placenta prævia related the operation of rupturing the membranes proved to be of merely temporary assistance, the bleeding soon recurring, and rendering further interference absolutely necessary. A third series of eleven cases (24 to 34, p. 103) are given. Respecting two cases, the author remarks that in each the recovery appeared to be owing to the injection of cold water into the uterine cavity, when all other means had failed to induce permanent contraction. The complication of placenta prævia with such diminution in size of the conjugate diameter at the brim as to necessitate perforation of the skull he has often met with. It renders labour difficult and protracted, but the operation of diminishing the size of the head does not add materially to the danger of the case by increasing to any considerable amount the loss of blood. A fourth series of cases (35 to 46) is given at page 154. The author states that he has seen a large number of cases in which a dangerous draining has been going on from the uterus for some hours after the termination of the labour, accompanied by faintness and violent uterine contractions, producing intense suffering, such as is described by patients as being more unbearable than the strongest labour-throes. These cases, unless some part of the placenta had remained behind, depend on a quantity of coagulated blood having collected in the uterine cavity, which gives rise to efforts at expulsion on the part of the uterus. The tenacity of the coagula causes them to adhere strongly to the uterine walls; the contractions, instead of dislodging them, merely squeeze away the serum, rendering the coagula themselves more and more firm, until in time little is left but the fibrin itself. The removal of these can only be effected by the hand, and the pains thereafter cease completely. Respecting these forty-six cases of unavoidable hæmorrhage before delivery, the author remarks that they were the most fatal cases by far which had occurred in his obstetric practice, excepting those where extensive lesions had taken place. In Case 45, although the child had been extracted, although the placenta was expelled, and although the uterus was firmly contracted, the bleeding continued, and could not be checked by any means which were attempted, and death occurred; there was no suspicion of rupture of the uterus. Of the total number of cases of unavoidable hæmorrhage here related eleven cases were of entire placental presentation, seventeen of partial placental presentation, and eighteen where the placenta was near to, though not over, the os uteri. Of the eleven entire placenta presentation cases, in ten the child was turned, in one the placenta was expelled first. In two of these ten the pelvis was so contracted that the head had to be opened after the body was born. Four children were born living and seven dead, one of the latter putrid (and two craniotomy). Seven women recovered and four died. Of the seventeen partial presentation cases, in two the feet were at the brim; they were delivered footling, one living one putrid; and head had to be perforated, pelvic contraction being present. Both mothers recovered.

In five turning performed; four of the women did well, one died; three of the children born alive, two dead. In seven cases delivery effected naturally, after artificial rupture of the membranes; four of the children born alive, three dead; all seven women did well. Three were delivered by forceps; two died, one recovered; of children, two born dead, one living. Of the last series, viz., eighteen, in which the placenta was attached near to the os uteri, three were breech presentations, one transverse; all these were extracted by the feet; all the children alive, all mothers recovered. In nine the children were expelled naturally, after artificial rupture of membranes. Seven of them were stillborn, one putrid, two living. Of the nine women, seven recovered and two died. Four were delivered by turning, head presenting; one of these children was born alive, and three dead. Three of the mothers recovered, one died. One was delivered by craniotomy, the child putrid; the mother recovered. Thus, of the whole forty-six cases, nineteen were delivered by turning, sixteen naturally, after artificial rupture of membranes; in one placenta expelled first; three delivered by forceps, one by craniotomy. There were six preternatural presentations, three breech, two feet, one transverse. Thirty-six women recovered, ten died. Eighteen children born alive and twenty-eight dead; of the latter, four putrid, three craniotomy.

MYRTLE, Dr.—*Hæmorrhage at the commencement of Labour from Hypertrophy and Eversion of the Os Uteri.* Ed. Med. Journ., July, 1862.

At the end of the eighth month there occurred hæmorrhage to considerable extent, of arterial complexion; there was debility, unwonted depression of spirits. Examination was made, and difficulty felt in deciding whether a spongy, vitreous mass, two inches long and projecting from the os, was a portion of placenta or malignant disease of the anterior lip of the os uteri. It was anteriorly girt by the firm os uteri. Under the influence of ergot and chloroform, given in combination internally, membranes having been ruptured artificially, the labour-pains set in, and with increase in the pains the tumour above described disappeared, the bleeding became less, and the case ended happily, there being no trace of a tumour left afterwards.

HAMILTON, Dr.—*Post-partum Hæmorrhage.* Ed. Med. Journ., Oct., 1862, p. 379.

The practice of the author in the treatment of post-partum hæmorrhage is to clear out the clots from the interior of the uterus, to introduce one hand into the vagina, and to place the other hand externally over the fundus uteri. Pressure is then made on the back wall of the uterus from below and in the opposite direction from above, and this compression maintained for the necessary time.

HAMILTON, Dr.—*New Transfusion Apparatus.* Ed. Med. Journ., Oct., 1862, p. 380.

Believing it to be very desirable that a more simple means should be devised for the employment of transfusion in severe cases of post-partum hæmorrhage, the author has contrived an apparatus of the following nature:—It consists of a funnel, four inches broad at the mouth, for receiving the blood, with a stop-cock attached to it; of a small tube for introduction into the vein of the patient, also having a stop-cock attached to it; and of an india-rubber tube, two feet long, for connecting the two. In operating with this instrument the patient is to be placed on a lower level than the person from whom the blood is taken; the force of gravitation is thus the injecting force, and the passage of air into the veins is prevented. The apparatus is first filled with warm water, and just before taking the blood from the arm this water is allowed to escape, with the exception of just enough to fill the tube and the bottom of the funnel. The blood is then caught in the funnel and passes into the veins of the patient by the force of gravitation, the small quantity of water in the tube being driven before it. The author considers the introduction of this small quantity of water of no disadvantage. He has made experiments with the apparatus on dogs, with favorable results. He finds that one ounce of water runs off from the funnel in eight seconds. The great obstacles hitherto to using transfusion have been the complexity of the apparatus, the dread of introducing air, and timidity on the part of the surgeon, from want of dexterity or practice. The vein must be properly exposed, or the blood will be injected into the cellular tissue.

WEICKERT.—*Transfusion for Post-partum Hæmorrhage.* Deut. Klin., June 7th, 1862, p. 230.

The patient, æt. 43, was delivered of her tenth child at 10·45 a.m.; hæmorrhage then occurred; the uterus only slightly contracted. At 2·15 p.m. she was found in an excessively anæmic condition; extremities cold, quite pulseless; placenta still adherent firmly to the fundus uteri. By friction externally and introduction of the hand, it was removed in a quarter of an hour, and the uterus contracted well. During the next two hours there was but slight loss of blood, the friction externally being continued, and tincture of iron injected into the uterus. Wine, opium, and ether, were given; but, notwithstanding, the patient's condition became worse; there were repeated faintings, a feeling of weight in the cardiac region, difficulty in breathing, singing in the ears, complaint that the bedclothes were heavy, extreme restlessness, continued coldness of extremities; heart's impulse and pulse variable, sometimes not to be felt; eyes lustreless and sunken. In addition to these symptoms there came on obstinate coughing and vomiting. It was now decided to perform the operation of transfusion. The operation was performed under difficulties, there being insufficient space, light, and assistance. Martin's method and his instrument were employed. The blood was procured from the son, seventeen years old, and the median vein was opened in the left arm of the patient. The canula and trochar were introduced. By a motion of the arm of the patient the canula was ejected. The vein was now more exposed and separated from the cellular tissue, and by means of a needle a thread was passed beneath it, and thereby more control obtained over it. The assistant had now the canula as well as the ends of the thread to hold; only as much blood was drawn at a time into the vessel, previously warmed, as was required for a single injection. Owing to the fainting of the individual the blood was taken from, a woman was next bled, and a sufficient quantity of blood obtained from her. The great difficulty encountered was in the tendency of the blood to coagulate, and during the time necessary to fill the syringe with blood this coagulation took place. In consequence of a great quantity of the blood becoming clotted in the syringe, it was difficult to estimate the number of ounces which were injected. Finally, the canula became choked up, and no more blood could be injected. During the injection consciousness was maintained; there was one more attack of fainting, but this only lasted a short time, and the patient began rapidly to improve. She completely recovered, and there was no inflammation of the vein. In reference to the general question as to employment of transfusion, the difficulties as regards the prognosis often interfere with its performance in proper cases. It often happens thus that life is lost while the deliberation is proceeding. The most dangerous symptom is, in the author's opinion, the great, the extreme restlessness of the patient. A second difficulty arises from the impossibility of procuring the necessary assistance in the short time at our disposal, and a third in a feeling that the operation is useless.

SIDEY, Dr. JAMES A.—*Accidental Hæmorrhage.* Ed. Med. Journ., May, 1862.

The patient, near full time of her ninth pregnancy, was suddenly seized with hæmorrhage, and lost a quart of blood. The os was felt ulcerated, indurated, and irregular. The os being dilated eighteen hours later, the shoulder was felt presenting, the body bent backward, the pelvis round and small. Turning was effected, and the child delivered. Two days afterwards she had, after trifling exertion, a slight hæmorrhage, with relaxed uterus, and died early the next morning. The child, it is stated, had been dead eighteen hours, but the cuticle could be removed by the slightest pressure.

PAJOT.—*Fatal Uterine Hæmorrhage at the end of Pregnancy; Placenta Prævia; Fibroid Tumour of the Posterior Uterine Wall.* Gaz. des Hôp., No. 16, 1862.

The patient, a multipara, had a sudden attack of hæmorrhage in the ninth month, which lasted for eight days before pains came on. The os was found open, the size of half-a-crown; no fœtal part could be detected; the placenta completely covered the os. The bleeding began anew, having ceased for a few hours; the hand could not pass in front, owing to the symphysis pubis; and behind, it was prevented passing by a hard tumour, which appeared to be continuous with the placenta. The placenta was perforated by the hand and the membranes ruptured, the fœtus turned and extracted; the placenta followed spontaneously. The patient subsequently died. The tumour was found after death to have twice the size of a hen's egg, and was situated in the posterior uterine wall, projecting into its cavity.

RUPTURE OF UTERUS.

BYRNE, Dr. JOHN A.—*Rupture of the Uterus, in which Recovery took place.* Dubl. Quart., Feb., 1862, p. 219.

In this case the diagnosis of rupture of the uterus was made from the symptoms—extreme collapse, an agonised look, sudden cessation of labour pains, cessation of sounds of fœtal heart, presence of disproportion between the head of the child, which latter was slightly hydrocephalic, and the osseous passages of the mother. There was only a slight discharge of blood from the vagina, no recession of the presenting part, and absence of any sensation on the part of the woman of the accident having occurred. The previous labours, three in number, had been healthy. The delivery was effected easily after perforation of the head, which presented; she was in a state of danger from reactionary symptoms during some days, but finally recovered. Through the speculum a ridge of granulation was afterwards seen passing across and through the os uteri, which bled freely on being touched, and pus exuded. This was supposed to indicate the line of the rupture. In endeavouring to account for the accident the author states his belief that the thin and soft condition of the cervix uteri, in conjunction with the large head, probably brought it about, although at no time was uterine action strong.

LACERATION OF PERINÆUM.

COHEN.—*On Subcutaneous Myotomy of the Constrictor Cunni, as a means of preventing Laceration of the Perinæum.* Mon. f. Geb., supp. part for 1861, p. 106.

The author believes that the old theory that perinael laceration begins with a tearing of the skin of the perinæum is incorrect, and that the laceration of the fasciæ and muscles surrounding the vaginal entrance (the fascia superficialis, the constrictor cunni and the fascia profunda) is the primary cause. The proposed operation, which the author has twice performed, consists in cutting through the fibres of the constrictor close to the clitoris ($\frac{1}{2}$—$\frac{1}{3}$, by " mean" of a lithotomy knife. The time for the operation is during a pain and when the head is about to emerge; the guide to the muscle is the firm band felt during the pain. The mucous membrane is not to be cut through. The left side is first to be operated on, and, if considered necessary, afterwards the right. The effect of the operation is to produce immediate relaxation of the perineal structures.

OBSTETRICAL OPERATIONS.

ARTIFICIAL INDUCTION OF PREMATURE LABOUR.

Prof. MARTIN.—*On Artificially Induced Premature Labour.* Mon. f. Geb., Jan. and Feb., 1862.

Martin's cases forming the subject of this paper were twenty-two in number. In three instances the operation was performed twice in the same individual. Five women were primiparæ, the rest multiparæ. Contraction of some part of the parturient canal was present in twenty cases, in nineteen of which the pelvis was the part contracted. In all these labour cases the antero-posterior diameter was shortened, and in several of them the oblique diameters also. With reference to the indications for the induction of artificial premature labour, the author considers that general pelvic contraction, whether with or without accompanying contraction of one diameter specially, certainly indicates its necessity; but in cases when the contraction is limited to one diameter, unless the degree of the same be very considerable, it is advisable to wait the result of the first labour. It has been found that in some cases, where the antero-posterior diameter has not exceeded $2\frac{3}{4}''$, the result has been successful for mother and child when matters have taken their own course. This may be explained by—1, the smallness of the children and the soft condition of the bones of the first children of rachitic mothers; 2, the powerful nature of the labour-pains in the first labours of such women; 3, by the fact that the oblique diameters being often greatly increased in such cases, room is thereby given for the head to pass through, with its shortest diameter opposed to the part of the pelvis, when the contraction is greatest. On the other hand, in the subsequent labours of rachitic women with such moderate degrees of pelvic narrowing;—1, the size of the fœtus appears to increase in successive pregnancies; 2, the configuration of the lower part of the uterus is less regular and favorable for the long progress of the labour, in consequence of the pressure it has undergone in former labours between the head of the child and the pelvic bones, and hence the position of the fœtus is not so good; 3, the pains are less regular in subsequent pregnancies. It is difficult to say what precise measurements of the pelvis indicate, or not, the operation. Much depends on the form of the pelvic inlet, whether the projection forwards be in the middle line or not, and on the manner in which the head presents at the inlet. Indications for the operation are also conditions threatening the life of the mother—uterine hæmorrhage, placenta prævia, &c. Two instances coming under this head are given, in which there was excessive distension of the uterus with fluid (hydramnios), œdematous swelling without albuminuria, loss of appetite, and insomnia, and in which the operation was had recourse to. A third series of indications have been laid down by various authors, viz., the habitual death of the fœtus in the last months of pregnancy. The only condition with which the author is familiar at present under such circumstances is a dropsical state of the fœtus, with evident affection of the blood-corpuscles, and these have been constantly observed in cases where there was constitutional syphilis in the parents. The proper treatment in such cases is an anti-syphilitic one, and not induction of premature labour.

The period of pregnancy at which the operation was undertaken was as follows:—In two cases at the thirtieth week; in one case of extreme pelvic deformity at the thirty-second week; in one case at the same period, when there was a firm, unyielding tumour of the sacrum. Four of these children lived. In five cases labour was induced at the thirty-fourth week, and three of the children lived. In ten cases at the thirty-fifth week; two of the children were stillborn, the others lived. The presentations were—in the seventeen cases, cephalic; in four the feet presented; in three cases, position transverse; in two cases there was prolapsus of funis.

The method employed was to select the simplest at first, and this failing to induce uterine action, to have recourse to other more powerful measures. Sucking the breasts by means of an india-rubber apparatus was employed, but with very little result, in three cases. It was never alone sufficient. The colpeurynter was employed in two cases, once after sucking had been tried; in the other case, after fourteen fruitless injections of aqua picea into the uterine cavity. The vaginal douche was employed in twelve cases; only twice did it alone succeed, and three times it was necessary to employ a sponge to dilate the os; in one case it induced hæmorrhage. Sponge-tents were employed in four cases, always after the vaginal douche had been tried. Active pains and dilatations of os set in in all cases not later than twenty-eight hours after its introduction. Warm water was injected into the uterus, between it and the membranes, in four cases. In the first two the results were satisfactory, but in the other two they were such as to lead the author not to employ this method further. He thinks it not impossible that hæmorrhage may be produced by repeated injections after this method, and that air may possibly be introduced. In ten cases the means employed to induce labour was the introduction of a gum-elastic catheter into the uterus. In six of these cases the vaginal douche had been previously employed. In eight cases the interval which elapsed between the introduction of the catheter and the first pains was five minutes to twelve hours. In five of the cases, the pains not being satisfactory during this interval, a second, larger catheter was also introduced. The birth of the children took place in twelve to fifty-two hours; six were born alive; one mother died of metritis. Puncture of the membranes was employed in the two cases when hydramnios was present; both had a favorable result for the mother. The general result arrived at is that the best time for the operation is the thirty-fourth or thirty-fifth week, and that the best method consists in the use of the vaginal douche of warm water, this being followed by catheterization of the uterus.

VALENTA.—*On Catheterization of the Uterus.* Wien. Med. Halle, 1861, Nos. 48 and 50.

The author relates four cases in which this operation was employed to induce or hasten labour (see 'Year Book' for 1861, p. 354, for allusion to ten previous cases).

ALFORD, RICHARD.—*Induction of Premature Labour by Ergot of Rye and Puncturing the Membranes.* Lond. Med. Rev., May, 1862.

The author's plan is to give ergot first, and, having excited labour thereby, to leave off the ergot and puncture the membranes. This plan is, he holds, much safer than some recently devised methods, and is the best when our object is not to bring on labour rapidly. Illustrative cases are related.

BARNES, Dr. ROBERT.—*On the New Method of inducing Premature Labour at a predetermined hour.* Ed. Med. Journ., July, 1862.

The uncertainty as to the time occupied is a serious objection to the older methods of inducing premature labour. The suspense and loss of strength are further objections. Moreover, the attendant may be absent at the time when most required, and mother and child thus exposed to unnecessary danger. The time of the medical attendant is fully occupied, for while the labour is going on he is unable to fulfil other engagements. The operation proposed by the author relieves from this uncertainty and these inconveniences. Labour may be induced at will, and terminated, if desired, at an appointed hour. The operation is brought within the control of the operator; the method pursued is by no means uniformly simple, but implies a combination of resources. The primary point consists in the artificial dilatation of the cervix uteri by the use of specially constructed caoutchouc bags distended with water. [These bags are of a fiddle shape, having, when distended, a narrower, cylindrical, central portion, dilating at either end into a bulging or mushroom-like expansion. The object of this is to prevent the bag from slipping forwards into the uterus or backwards into the vagina. The bag is prolonged into a long, narrow tube, with a stop-cock at the end, to keep in the water when injected; the injecting medium is the ordinary Higginson's syringe. Three bags of different sizes are sufficient. To facilitate the introduction of the flaccid bag into the cervix uteri, a small pouch is attached outside, to receive the end of the uterine sound, which, guided by the finger of the left hand, applied to the os uteri, serves to push the bag into the cervical canal.] The first condition to be fulfilled is the full dilatation of the os uteri; this may be called the preparatory stage. The second is the excitation of the uterus; this is the provocative stage. The last is the expulsion or extraction of the fœtus—the accelerative or concluding stage. The first stage is accomplished by dilating the vagina, which is effected by one of the caoutchouc dilators, distended with water. The smallest bag is then passed into the cervix uteri, care being taken that the terminal, bulging part shall pass through the os uteri internum. When water is thrown in, the dilator is thus secured by its shape *in situ*, and the eccentric pressure bears on the whole cervical canal, especially upon the two points of greatest resistance, the ossa internum and externum. This stage ought not, as a rule, to occupy less than three or four hours, so as to resemble as nearly as possible the natural process. When the dilatation is complete, the great obstacle to delivery is overcome. If expulsive pains arise, the way is clear; if not, they must be excited. The membranes may first be ruptured, and this should be done generally before full dilatation of the cervix, the dilator to be replaced before the liquor amnii has drained away. If expulsive pains do not now set in, the accelerative measures are to be had recourse to; these are the forceps and turning; the long forceps may be used if the head present, and it be possible. If turning be had recourse to, which is a final and sure resource, we may carry this out by the method of combined external and internal manipulation, which dispenses with the necessity for passing the hand through the cervix uteri or above the brim of the pelvis, which latter may be distorted. To illustrate the value of the method described cases are then related. Thus a case is given, the preceding history of which was as follows:—In the first labour attended there were convulsions, complicated with contraction of the pelvis. Perforation was had recourse to; the second time also craniotomy was necessary; in the third, labour was brought on at seven months, by use of sponge-tent, vaginal and uterine douches, ergot, &c. The child was living, but the operation extended over several days. In the next pregnancy the intra-uterine douche was employed at seven months, and the vagina dilated by the caoutchouc bag. The dilatation of the cervix was effected next day by water pressure, and turning by the double method employed. Here the labour had still been tedious. The last labour is next described. March 25th was fixed for the operation. At 5 p.m. the vagina was expanded by the medium-sized dilator, introduced for ten minutes, after which the os uteri admitted the tips of two fingers; membranes were then ruptured; some liquor amnii followed. At 7 p.m. seen again. A good deal of liquor amnii had drained away, but the os was not more dilated, and there was no pain. The medium-sized dilator was placed in the cervix, distended, and left in forty minutes, at the end of which time it was found to have slipped into the uterus; it was replaced, and distension renewed. At 10 p.m. the os was the size of the rim of a wineglass. Turning was now employed, the forceps being inadmissible. By the fingers of the left hand pressure was made steadily on the presenting head, directing it towards the left iliac process and forwards, while the breech was pressed in the opposite direction by the right hand, applied to the fundus externally. In a few minutes the head was pushed away, and the right foot seized; version was then effected. Nearly twenty minutes was occupied in extracting the breach; the cord being almost pulseless, the delivery of the chest and head was hastened, but the arms and the head were delayed two or three minutes each, and the child was born apparently dead. By flannel wrung out of hot water, applied to the chest, faint inspiratory efforts were excited; in half an hour it was recovered. In all, the labour only occupied five or six hours in the induction; this could not have been effected without the dilators to expand the cervix and the operation of turning by the bi-manual method. Other cases are related in which the result was equally satisfactory. The author remarks, in conclusion, that the *accouchement forcé* may be altogether discarded; the new method substitutes gentleness for force, and the forcible distension by the hand is no longer necessary. Considerable nicety of discrimination and delicacy of execution is necessarily involved in the proceeding, but it is to be expected that such qualities may be reasonably expected in those who undertake obstetric responsibility.

FORCEPS.

LEE, Dr. ROBERT.—*Observations on the discovery of the original Obstetric Instruments of the Chamberlens.* Med.-Chir. Trans., vol. xlv, p. 1.

From the facts and documents here placed on record it appears to be rendered probable that Dr. Peter Chamberlen was the inventor of the forceps; that one of his sons, Hugh, was the translator of Mauriceau, and the individual referred to by that writer in his work. There was a second Hugh Chamberlen, the son of the latter, and grandson of Peter Chamberlen. Dr. Lee gives an account of a visit to and inspection of the house and closet in which the original Chamberlen instruments, now in the possession of the Royal Medical and Chirurgical Society, were discovered.

RAMSBOTHAM, Dr.—*Clinical Midwifery.* Med. Times and Gazette, 1862.

The author gives in a series of clinical reports the particulars of all cases in which the forceps were used by him during the five years 1840—1844. The first series include nine cases. In six of them the head was sufficiently low in the pelvis for an ear to be distinctly felt, and were cases for the short forceps. In the employment of this instrument the author has in his works laid it down as a rule to apply the blades over the ears, but in practice he has introduced the blades within each ilium of the mother, because they pass up more easily in this direction, and because he has by practice become perfectly *au fait* to the manipulation of the instrument, and tolerably well aware how much power may be used without doing harm. The other three were long forceps cases; here the blades should always be applied within the ilia of the mother, and therefore antero-posteriorly upon the head, because, the base of the skull still being above the brim, the head has not yet made its turn with the face into the hollow of the sacrum. It is not necessary, though very desirable, to know to which side of the pelvis the face is directed before the adaptation of the instrument, because when the brim is passed the head will of itself turn with the face backwards; we have, therefore, only to follow the inclination of the head, without attempting to guide it. After the head is in the cavity we may follow one of three modes of practice—to remove the instrument and head, to apply the short forceps, or to continue to extract with the long forceps; and a specific rule is applicable to every variety of case. If the external parts be rigid and uterus acting strongly, natural expulsion is the best. If there be plenty of room, delivery may be at once effected.

The author states that in all cases he uses the catheter before applying the forceps, and that he does not use an enema unless a quantity of hardened fæces be found lodging in the rectum. The next series includes eight cases. In two out of these eight the head was extracted with the face anteriorly; this is rare. Generally there is some peculiar formation, either of the pelvis or of the child's head, to account for it. When the blades of the forceps are adapted over the ears with the face looking to either acetabulum, the author's practice is to extract with the face forward; but if a difficulty is found in doing this, to turn the face into the hollow of the sacrum, and he prefers, if possible, extracting it with the face under the arch of the pubes, because, as the rotation is made over only one quarter of the half pelvis, there is less chance of injuring the soft structures in the manipulation than if it were made over three quarters; besides which, if the child's body be tightly contracted above, and not follow the turn made below, the child's neck would be twisted, and fatal injury perhaps inflicted. At page 344 a further series of ten cases are related. In one of these the necessity for the forceps arose from inward projection of the spinous processes of the ischia delaying the exit of the head, and there had been a similar difficulty in two previous labours in the same patient. The next series (p. 397) include nine forceps cases, and the next (p. 474) eight more. Repeatedly the author has occasion to observe that the child must have been sacrificed unless the long forceps had been employed. In one case the os uteri was not fully dilated when the instrument was first introduced; this adds much to the chance of injury to the organ. If more than one third of the os uteri is to be felt continuously, it will most likely be found in a condition to prevent the use of the long forceps. In the case in question it was so soft and so distensible, that it would evidently dilate readily, as the head passed through the bones without suffering injury. Respecting a case in the next series of eight cases (p. 555) the author remarks that, as in some other cases, the spinous processes of the ischia were directed too far inwards, and this delayed the expulsion of the head and necessitated the use of the forceps. The projection in question interferes with the rotation of the head, and the head hitches against it, as against the corner of a shelf. He has almost invariably remarked that in the use of the long forceps, when the base of the skull remains above the pelvic brim, and neither ear can be felt, the facility with which extraction can be performed depends on the facility with which the second blade can be adapted and locked. The reason of this has not been evident. In the case in question, where this difficulty was met with, the child died in convulsions soon after birth; this would lead to the inference that the brain had suffered some serious injury from pressure. This may very likely have been inflicted by the compression which it was necessary to make with the forceps in order to draw the head through the brim. The author states that he has good reason for believing that the head will in labour bear a much greater degree of pressure laterally than if applied antero-posteriorly. This most likely depends on the directions of the fibres forming the cerebral mass, and might be explained on that supposition. Ten more cases of forceps delivery (p. 638) conclude the series. In the five years over which the reports extend the author delivered (besides three other cases in which there was also placental presentations) 62 women by the forceps. In 37 of them one or both ears could be felt, and they were treated by the short forceps. In 25 the head had not descended so low, and they were treated by the long forceps. Of the 37 first cases, 33 were first children, 2 second, 1 a third, and 1 a fourth. Of the 25 long forceps cases, 13 were first children, 2 second, 1 a third, 1 a fifth, 3 sixth, 1 seventh, 1 eighth, 1 ninth, 1 twelfth, 1 after a large family. Fifty-nine of the women recovered, one having suffered from mania; three died, one from scarlet fever, one from typhus, the other from fever the origin of which was not discovered, more from exhaustion than from the effects of the operation. Fifty-three children were born living; 10 were either quite stillborn or became so, one case being twin, complicated with convulsions, in which one child was putrid, the other could not be restored, though the heart was pulsating; one other also was putrid, one born under hæmorrhage, and four others gasped after birth or were born with the heart pulsating feebly.

HAMILTON, Dr.—*On the use of the Forceps in Tedious Labour.* Ed. Med. Journ., Oct., 1862, p. 376.

The author contends that the more frequent use of the forceps is desirable, and adduces the results of his own practice in proof of this statement. He had delivered 731 children consecutively, and all born alive, in the delivery of 90 to 100 of which the forceps had been employed, that is to say, including only cases attended by him from the first, and excluding from consideration all children non-viable or already dead. The mortality in parturition increases always with the duration of the labour; and, believing that the danger is greatest in those cases where the delay occurs during the second half of labour, he always had endeavoured to shorten this stage as much as possible by every means compatible with the safety and well-being of mother and child. In an apparently normal case, if the child's head remains longer in the pelvis than two hours, and the pains are at all severe, he uses the forceps, considering that the child's life is becoming endangered. He had employed the forceps about 200 times, and had found no danger whatever if the head had not been allowed to become impacted. He employed the forceps in most cases at a direct traction, but in some cases also to rectify the position. In one patient the forceps were employed in nine out of twelve labours, in consequence of the fœtal head failing to make the necessary turn in the pelvis. He almost never used ergot of rye in midwifery practice. The greasing of the forceps previous to introduction he considers unnecessary.

TURNING.

HILDEBRANDT.—*On Turning with the Head foremost.* Konigsberg. Med. Jahrb., 1861, p. 1.

Cases related are in which turning with the head foremost was effected in three different ways—1, by internal manipulation; 2, Wigand's method, by external manipulation; 3, by placing the patient on the side which corresponds to the head of the child, the uterus resting on a firm cushion. Concerning the operation in general, the conclusions of the author are as follows:—Respecting all the methods of operating in question, certain conditions must be present in order to render them admissible, abnormal condition of the pelvis, or, at all events, such a condition as is not incompatible with extraction of a living child by the forceps; mobility of the fœtus, both as a whole and as regards its several parts; near proximity of the head to the os uteri; absence of circumstances, rendering immediate delivery necessary. If the operation by internal manipulation be adopted, the os must be fully dilated. An arm presentation or prolapsus of the funis is contra-indicative but, as proved by one of the cases related, prolapsus of the funis may occur during the operation without necessitating recourse to podalic version. The head must be guided, if possible, into an oblique diameter of the pelvis, with the occiput forward. Presence of regular pains always facilitate the operation. External turning is more generally applicable, as it can be had recourse to earlier in the progress of the case, and is less painful. Pressure is made on the breech and on the head in opposite directions, the pressure being occasionally varied in direction, according to circumstances. A relaxed, mobile, non-irritable condition of the uterine walls essential. To fix the head in its proper position, the rupture of the membranes is the most effectual method. The latter of the three methods is applicable when the head is near the os, or has been brought near to it by internal or external manipulation; where also, owing to absence of pains, it is desirable to fix the head in a certain position, and here the external continuous pressure has been found of essential assistance.

McCLINTOCK, Dr.—*On Turning in cases of Disproportion.* Rep. of Obstetrical Society of London, Lancet, Sep. 13th, 1862.

This paper embodies the results of seventeen cases which came under the care of the author in the Dublin Lying-in Hospital. In each of them turning had been performed, at various periods after the commencement of labour, on account of disproportion between the head and pelvis. In none of these cases was there any considerable deformity of the pelvis, though the obstetric histories of the women clearly showed that there must have been some slight narrowing of the superior strait.

More or less difficulty was experienced in every instance in bringing down the head into the pelvis, and twice craniotomy had to be resorted to. On one occasion the parietal bone (that next the sacrum) was fractured in pulling the head through the brim of the pelvis. With one exception, all the patients were deeply chloroformed before the operation of version was undertaken. Nine of the children, viz., four boys and five girls, survived birth, though all were alive when the operation was commenced. Of the eight children dead-born, five were boys and three were girls. The heart continued to pulsate for several minutes after birth in some of the children recorded as " dead-born," the author not considering a child as saved by an obstetric operation, nor recording it amongst the "live births," unless respiration be fully established. All the women recovered satisfactorily but one, who died of puerperal fever, of which some cases had occurred at the time in the hospital.

In reviewing these cases the author expresses his opinion that the operation is not so favorable for the child as some of its advocates suppose, and that it is only when the amount of pelvic narrowing is very slight that we can reckon with any degree of certainty upon saving the fœtus. He does not, therefore, recommend the operation in preference to the induction of premature labour in cases where an option is left us and a decided contraction of the pelvis is known to exist. At the same time, that it is a valuable resource in cases of this class which may have reached the full period of pregnancy, he proves by the fact that of eighteen boys born to the above patients, and delivered by other modes than turning, only two were alive at birth, whereas four out of the nine delivered by turning survived their births.

Looking to the interests of the mother, the author considers that the operation of turning in the particular class of cases under notice has stronger claims; for not only did it abridge the labour process, which in itself is no small advantage, but it averted the possible contingencies of craniotomy, high forceps operation, or even of rupture of the uterus. Its great mechanical advantage the author thinks is due, not to the position of the head nor its greater compressibility when coming through the pelvis with its base foremost, but to the unlimited amount of force we can bring to the aid of the uterus by traction on the body of the child.

FIGG, Dr.—*Accidents in Turning in Normal Labour.* Ed. Med. Journ., May, 1862.

One or other of the extremities sometimes becomes fractured during the operation, but no permanent or prolonged inconvenience results. Thus, in one case lately, the right femur and left humerus of the same child had been broken; a plaster was applied to each, and in two or three weeks both limbs were quite strong. A more distressing accident sometimes happens when no fracture can be detected, but when the forearm remains powerless, usually hanging down by the side, with the palm of the hand turned backwards. The arm sometimes retains this condition for several months, but he had found that without treatment the arm ultimately became quite well. Such accidents happened in endeavouring to bring down the arms before the head, and to avoid them he had in his recent cases simply pulled the body out, without paying any special attention to the arms, which are usually thrown upwards and come down easily with the head. He had observed that many of his patient were subject to a slight degree of intestinal catarrh a few days after delivery, most frequently in winter, when almost one half of the number became affected. On the whole, he had found his practice attended with less mortality than occurred in previous practice; there had been only one fatal case since he had had recourse to turning in all cases, and that was from rheumatic disease of the heart. Post-partum hæmorrhage occurred more frequently, but he had not seen it occur in a fatal degree. He usually gave ergot immediately after birth of the child, and frequently an opiate suppository was placed in the rectum.

CÆSAREAN SECTION.

DYCE, Dr.—*Case of Cæsarean Section.* Ed. Med. Journ., April, 1862, p. 895.

The patient, æt. 23, was four feet high, and at the full period of gestation. During two days labour-pains were slight, and then the waters escaped. For two days following she was pretty well. After this the pains returned—four days after first signs of labour—and were for a few hours regular. At night she had an opiate. The next day Dr. Dyce was called to see her. The sacral promontory was like a large tumour, in the centre of the vagina, the head was felt up behind the os pubis. Turning was resolved on. The hand was with difficulty passed through the brim as far as the abdomen of the child, but could not be got further, owing to contraction of the uterus. Craniotomy was then performed, and all the skull, except the base and part of the occipital bone, brought gradually away. An attempt was now made to change the position and bring the face through, but this failed. The Cæsarean section was resolved on and performed. There was no hæmorrhage, but a little meconium escaped into the uterus. She died forty-three hours after the operation. Vomiting had continued almost unchecked after the operation. The pelvis measured at brim, antero-posterior diameter, 2 inches; transversely, $4\frac{7}{8}$ inches; obliquely, $4\frac{1}{2}$; depth of pubis, $1\frac{1}{4}$ inch; depth from promontory to point of coccyx, $4\frac{1}{2}$ inches. At outlet, space between tuberosities of ischium measured $3\frac{1}{4}$ inches; from arch of pubis to point of coccyx, $3\frac{1}{2}$ inches; from brim of pelvis to lowest point of ischium, 3 inches.

JOHNSON, Dr. DAVID.—*Case of Preternatural and Difficult Labour followed by the Cæsarean Section.* Lancet, Nov. 1st, 1862.

The patient, æt. 17, had been very rickety when a child. When first seen had been in labour twelve hours, the pains had ceased, she was depressed and restless. The right hand and eight inches of cord were found lying in the vagina, and a little higher up both feet could be felt. High up beyond the brim the head could be felt, but there was little space. Attempts to pull the feet down and extract failed; the brim appeared to be only two and a half inches in diameter. Craniotomy was performed, the brain evacuated, but further attempts to extract the head with crotchet and forceps entirely failed. The Cæsarean section was then resolved on, and performed sixteen hours after the patient was first seen. She survived the operation forty-six hours.

PAGENSTECHER.—*Of the Statistics of the Cæsarean Section, with remarks on Osteomalacia.* Mon. f. Geb., Jan. and Feb., 1862.

Twelve cases are tabulated. Out of ten operations, six were cases of osteomalacia, and two of them in the same individual. There were four cases of rachitic deformity. In one case rupture of the uterus preceded the operation, and in another the patient was in a dying state. Four of the mothers were in a good condition before the operation, four were affected with extreme degrees of osteomalacia and marasmus, two were in a dying state. Of the ten children, three died before birth, one was dying, one was stillborn, four were born alive. Of the seven cases fatal to the mother, the cause of death was in one rupture of uterus, in one marasmus from osteomalacia, in two exhaustion from same cause, in two hæmorrhage into abdomen, in one purulent peritonitis. The result of the operation was markedly more favorable when it was undertaken before rupture of the membranes; under other circumstances the prostration, exhaustion, and want of contractility of the uterus, exercised a marked effect also in leading to an unfavorable result. There was nothing in the manner of performing the operation or in the after-treatment calling for particular remark.

It appears that osteomalacia is frequently observed in the neighbourhood of the author's residence (Elberfeld), especially in the larger towns. Repeatedly he has observed women who were rachitic become subjects of osteomalacia. It affects almost exclusively women of the poorer classes, living in small, confined, damp houses, who are badly fed, and have many and rapidly succeeding pregnancies. The characteristic signs are—pains in the bones affected, mostly beginning in one or both of the ossa ischii, and extending towards the symphysis and in other directions; pressure but slightly increases the pain, while the functional disturbance is great. Movement of the affected parts is rapidly interfered with, owing to the pain produced by the action of the muscles. Careful passive movements are more easily borne. With repeated exacerbations and remissions, the disease may last years or months; bronchial catarrh and diarrhœa are obstinate concomitant affections; the patient becomes anæmic; fat and muscle diminish in quantity. During life the changes in the bones are manifested externally by bending, diminution in breadth and length, and softening of the bones. The bending occurs from pressure of the other parts of the body in consequence of muscular action. In most cases the bones surrounding the pelvic outlet are nearly equally affected. The lateral posture of the patient produces the transverse narrowing of the pelvis usually witnessed. The exact degree and direction of the deformity produced depends on the habitual position assumed by the patient. The whole process is one of resorption of earthy constituents of the bones. There is no marked increase in the saline constituents in the urine, but there is copious excretion of these matters from the bronchial and intestinal mucous membrane.

Schwarz (Fulda).—*On the Post-mortem Cæsarean Section.* Mon. f. Geb., Supp. vol. 1861, p. 121.

This is an extended inquiry into the history and value of the operation in question. The conclusion come to is that the operation is practically useless, because never successful in saving the child. Of 107 cases in which the operation was performed in dead pregnant women in Kurhessen, between the years 1836 and 1848, including a time during which there occurred 336,941 births, not one living child was extracted, the result being the same whether the operation was performed in private practice or in lying-in hospitals, where the facilities for diagnosis are greater.

Breslau.—*Post-mortem Cæsarean Section; Living Child.* Mon. f. Geb., July, 1862.

The author's advice was requested in the case of a woman pregnant for the third time, in the thirty-third week of pregnancy, who had been for some time the subject of pneumonia, great dyspnœa, prostration, and apparently in a dangerous condition, and with a view of deciding on the performance of the operation for the induction of artificial premature labour, in order to save the lives of the mother and child. There was anasarca, pulse 120, orthopnœa; the diagnosis made was hydropericardium and softening, or recrudescent pneumonia on the right side. The child's movements were to be felt, but the heart could not be heard. It was decided to bring on labour. The membranes were punctured a little above the os by a metallic stilette, through a gum-elastic catheter; a tolerable quantity of liquor amnii escaped. The patient was placed in the horizontal position, the better to facilitate certain subsequent manœuvres, when she suddenly ceased to breathe, and could not be resuscitated. After twelve or fifteen minutes fruitlessly spent, it was evident that the patient was dead. Not the slightest pulsation could be detected by auscultation over the cardiac region. The *accouchement forcé* was first attempted, but this was evidently impossible to effect without exercising undue force. The Cæsarean section was forthwith decided on, and the necessary incisions made with an old bistoury, the only instrument to be procured. The child was removed stillborn at not less than fifteen minutes after the patient had ceased to breathe. Slight pulsation of the heart was the only sign of life. Finally, a first, second, and third respiration was induced, with long intervals. It appeared that attempts at breathing had commenced in utero, for the mouth, throat, and nose were full of the mucous secretion of the maternal passages. The presence of this interfered with introduction of air, and the author removed it by aspiration, making use of his own mouth. After an hour's uninterrupted work, rubbing and other measures having been had recourse to, the child was fully restored, breathed regularly, and cried loudly. It was premature, weighed four pounds. It died between six and seven hours afterwards, exhausted. The author considers it probable that the death of the mother was owing to the change of position.

SCHOOL OF MEDIC

DIMINISHING THE SIZE OF THE CHILD.

Pajot.—*Two Operations of Cephalotripsy performed on a Rachitic Woman; Pelvis five centimètres.* Gaz. des Hôp., Jan. 9th, 1862.

On the first occasion this patient, a very short, rachitic woman, presented herself in labour, at full term, March 12th, 1860. It was a case which would be considered, by some, one for the Cæsarean section; but M. Pajot had determined previously never to perform this operation when a cephalotribe would pass. Externally the pelvis appeared larger than it really was, but the osseous canal was very long, and the contraction was situated quite superiorly. When examined, the membranes had ruptured; she had been frequently examined; the child was dead. The operation, designated by the author as his own, viz., repeated cephalotripsy without traction, was resolved on. The head presented; this was perforated, the cephalotribe then applied, pressure exercised, the instrument then a little rotated, and pressure again applied. Four hours afterwards the instrument was again used, and compression effected twice; eight crushings were thus effected at four sittings, and at midnight the woman expelled the head, twice as long as normally, and much altered in consistence. Traction was made on the head, but further difficulty being encountered, the same instrument was applied to the trunk of the body, and five hours later the whole of the fœtus was expelled. Fifteen days after, a small vesico-vaginal fistula was found to be present; this was operated on, and cured. She was recommended to apply for advice, in the event of another pregnancy occurring, at not later than four or five months. She became pregnant again, but did not present herself at the hospital until advanced to six and a half months, within a few days. Without delay, the operation for inducing artificial premature labour was resolved on. A fatal case of rupture of the vagina, from the use of the vaginal douche, of which he had heard, had led the author to relinquish this method of inducing premature labour, although he had previously found it very useful. He now had recourse to an instrument designed by Tarnier, which is a hollow stem, at the end of which is a bag, distensible by water when the stem is introduced into the cervix uteri. Labour was thus brought on, and the shoulder found to be the presenting part. The feet could not be reached; the uterus was contracting; and it was resolved then to pull down the shoulder, and thus procure dilatation, and to wait. The following day the os was more dilated; decapitation would have been attempted, but it was not possible to reach the neck with sufficient ease to use cutting instruments safely; the cephalotribe was then applied to the shoulder, and the part in question compressed; the arm was then disarticulated. In the evening the fœtus had turned, and with the pelvis downwards. The fœtus was now extracted with comparative ease. The patient was removed the same evening to her house, in order to avoid the influence of the hospital emanations. Respecting the cephalotribe and its supposed dangers, they depend, says the author, on the traction employed after crushing; the fragments of bones are made the means of tearing the soft parts. This latter part of the operation Pajot discards. The operator must crush; repeat this operation over and over again, and wait until the fœtus is expelled by the natural action of the uterus.

SIMPSON, Professor.—*Decapitation and use of the Cephalotribe in Cross-birth.* Ed. Med. Journ., Sept., 1862.

The patient had been in labour for some time; the child presented transversely, one arm, the right, outside the vagina, and the woman much exhausted; the head was high up towards the right ilium, the cord prolapsed and pulseless; the uterus firmly contracted around the fœtus, so as to render introduction of hand somewhat difficult, and turning almost impossible. The promontory of the sacrum projected a little more than natural. It was decided that the best way to deliver would be to decapitate first. Ramsbotham's sharp hook could not be introduced, as the brim did not give sufficient room to turn it. A blunt hook was then passed round the neck, and the neck divided from below by strong scissors, the body being at the same time pulled down by the projecting arm. The body was easily removed, but the arm and scapula broke away first. To extract the head the hook was now placed in the mouth, but the jaw broke. The cephalotribe was now employed along the cheek and temples, and, after compressing the blades to some extent by means of the screw, so as to catch firmly and compress the head and evacuate some of its contents, the extraction was effected. The instrument employed was that of Scanzoni. The author believes that, in cases of transverse presentation, when the waters have long escaped, and the uterus has become closely contracted around a dead fœtus, the delivery can be more safely and easily accomplished by decapitating and diminishing the size of the fœtus than by attempting the, in such cases, always difficult, and sometimes hazardous, operation of podalic version.

RAMSBOTHAM, Dr.—*Clinical Midwifery.* Med. Times and Gaz., vol. ii, 1862.

The series of cases in which the operation of craniotomy was performed by the author during the five years 1840 to 1844 are here related (pp. 5, 80, 190, 249); they were thirty-two in all, besides some other cases complicated with hæmorrhage and placenta prævia (these having been related in the other series). The crotchet was used in all these cases, an instrument the author always uses in preference to the craniotomy forceps. In two of the cases the face presented; two were complicated with convulsions; in one the head and a foot presented at the pelvic brim; one was the first child of twins; in one the cause of delay was pelvic tumour; in two there was hydrocephalus; in one a slough took place from long-continued pressure, contracting the vagina, the bladder being uninjured; in two fistulous orifices occurred in the neck of the bladder, both fœtuses being highly putrid; only one woman died—one of the cases of hydrocephalus, she had been in labour between four and five days, and was moribund when delivered.

HARLOW, Dr.—*A new Instrument for Craniotomy.* Am. J. of Med. Sc., Jan., 1862, p. 281.

In this instrument, termed by the author the "cranio diaclast," the peculiarity is in that portion used for perforating the head. This consists of a large, cone-headed screw, in shape like that of a boy's top; the screw is one inch in diameter at its base, and one inch long; it readily perforates the head; presents no cutting, sharp edges; as it passes in, the fragments of bone are forced asunder, as by a wedge. It is easily and safely used.

ANÆSTHESIA IN MIDWIFERY.

Skinner, Dr.—*Anæsthesia in Midwifery, with new Apparatus for its safe and more economical Induction by Chloroform.* Brit. Med. Journ., Aug. 2nd, 1862.

The author maintains that there is a special tolerance of chloroform during labour, and that the employment of this agent in midwifery is far less dangerous than in surgical operations generally. He believes it impossible to say beforehand whether, in the particular case before us, chloroform will or will not agree with the patient. The only true test is to watch its effects on the patient. He commences the employment of chloroform at all stages of the labour, but considers that when begun it is desirable not to entirely withdraw it afterwards. He holds that, with the exception of a questionable tendency to the occurrence of hæmorrhage in some rare cases, chloroform may be said to be perfectly innocent of all and every medical objection that has ever been raised against it, in the practice of midwifery.

A new apparatus for the more safe and economical employment of chloroform is described. It is composed of a mask or inhaler, which is a framework of wire covered with coarse domette, and covers only the lower half of the face. The chloroform is dropped on this apparatus from a bottle of peculiar construction; it is a tube of glass two inches long, sealed at one end, so that a silver ligature only can pass. It is then thrust through a perforated cork inserted into a three- or four-ounce phial; this forms a most efficient drop-bottle. The inhaler is so made that it can be folded up, and thus rendered portable. The author states that, whereas he formerly found it necessary to use from one to one and a half ounce of chloroform per hour to keep up anæsthesia, he now only has to use at the rate of half an ounce per hour to produce the same effect. The method of inhaling the chloroform was suggested by Professor Simpson's procedure of dropping chloroform on a handkerchief stretched over the face.

Part II.—DISEASES OF WOMEN.

PHYSIOLOGY, GENERAL STATISTICS, ETC.

Harley, Prof.—*Uterus and its Appendages at the Catamenial period.* Path. Trans., vol. xiii, p. 170.

The uterus was taken from a married woman, æt. 23, who had been drowned. The appearances indicated that menstruation would have commenced in a few hours. The whole organ was congested; the tissue of a rosy tint. The mouth of the womb was filled with a white, tenacious mucus; the mucous membrane lining the uterus throughout its whole extent was hypertrophied and of a pink colour, increasing in depth towards the fundus, where it attained a dark, livid colour, and was covered over with a quantity of blood. The blood was in greatest quantity at the mouths of the Fallopian tubes, but neither the congested nor hæmorrhagic state of the mucous membrane extended beyond the openings of the tubes. Their interior was white and clean at the uterine extremity, but highly congested and filled with a milky juice towards the fimbriated end. The mucous secretion was loaded with ciliated and other epithelium. The ovaries were enlarged, the left especially, which contained a Graafian vesicle the size of a marble, ready to burst, and which burst in manipulation. The fimbriated opening of the Fallopian tube was large enough to admit a crow-quill.

CAMPBELL, JAS.—*On the Age at which Menstruation begins in Siam.* Ed. Med. J., Sept., 1862, p. 233.

The author states that an ex-royal physician at the court of Siam gave his opinion on the subject as follows:—That sometimes Siamese girls arrive at puberty when only 12 years of age, but more frequently at the ages of 14, 15, 16, 17, and 18 years. The author had not met with an instance of a female who had menstruated before the age of 12 years and 5 months, and he concludes that the mean age at which menstruation commences in Siam is different from that which obtains in India. Dr. Goodeve, of Calcutta, gives 11 years 11 months and 13 days as the mean, and Dr. Leith, of Bombay, 12 years 5 months as the mean age of commencement of menstruation. Of a series of cases tabulated by the author, the largest number menstruated after attaining the age of 14.

AMANN.—*The Methods of Examination in Diseases of Women, with diagnostic indications for Practitioners and Students: an Introduction to Gynækology.* Munich, 1861, Giel, 8vo, pp. 96.

This work is a brief introduction to the subject of which it treats. The importance of physical examination having been pointed out, and certain anatomical and physiological points alluded to, the methods of investigation are systematically considered.—1. External examination by means of (*a*) the touch, (*b*) the inspection, (*c*) auscultation. 2. The external examination by means of (*a*) the touch, (*b*) the use of the sound, and (*c*) the use of the speculum. In the latter division of the work the microscopic and physical examination of the vaginal and uterine secretions is described.

TILT, DR.—*On Uterine and Ovarian Inflammations.* 8vo, Lond., Churchill, 1862, 3rd edition, with coloured plates, pp. 470.

In the preface to the new edition of this work the author states that the work has been re-written; that in treating of uterine inflammations he has had in view principally the pathology of the body of the womb, a very important and, as yet, little understood subject.

HEWITT, DR. GRAILY.—*Lectures on the Diagnosis and Treatment of Diseases of Women.* Brit. Med. Journ., Jan. 11th, 18th, 25th; Feb. 8th, 15th; May 10th; June 21st, 28th; July 26th, 1862.

These lectures are in continuation of the series referred to in the

'Year-Book' for 1861. The subjects now treated of include—discharges from the generative organs of non-sanguineous character, including the various cases classed under the term "leucorrhœa," and the treatment of such cases; the disorders of micturition; symptoms referable to the rectum, disturbances in the function of defecation; abnormal sensations referable to the generative organs, pruritus, pain, &c.; the painful sensations associated with menstruation and otherwise. The question, what is the cause of the pain during menstruation in so-called cases of dysmenorrhœa? is fully considered, the author stating his conclusion that in such cases partial retention of menstrual fluid is present. The means of procuring dilatation of the cervical canal under such circumstances are discussed. Pains experienced irrespective of menstruation, and the diagnosis of their various causes, are next considered.

MISCELLANEOUS.

ELLIS, ROBERT.—*Practical inquiry into the properties of Nitrate of Silver; with a description of a new instrument for its use in Uterine Diseases.* Report of Obstet. Soc. of Lond., Lancet, May 24th, 1862.

The author contends that nitrate of silver is improperly regarded by some writers as simply possessing astringent and stimulant qualities, and he believes that it is really an escharotic, and capable of destroying structure and vitality in the living body and of producing a slough. Nitrate of silver destroys life and structure to the depth of its penetrating power, but its power of penetration is extremely limited. The existence of the chlorides in the animal tissues in abundance explains the apparently feeble escharotic action of nitrate of silver; the chlorides limit the action of the silver by the affinity they possess for it. The author had paid attention to the form of nitrate of silver best adapted for use. He had prepared several kinds of "tough" caustic, by addition of various substances. An instrument he had contrived, which was intended to be used with "perforated caustic," was exhibited. There is a short socket for the caustic, down which a platinum pin (passing through the caustic) is held and retained firmly by a small nut. The caustic could not thus be broken off while being used. The caustic used was run in moulds of peculiar shape, and had a perforation in the centre for the wire in the holder.

TANNER, Dr.—*On the use of Medicated Pessaries in the treatment of Uterine Diseases.* Rep. of Obst. Soc. of London, Lancet, Oct. 11th, 1862.

The author remarks that the value of medicated pessaries has been acknowledged, but the difficulty had been in making them so that they could be efficiently applied by the patient herself. He had overcome this difficulty by the use of the butter obtained from the theobroma cacao nut as a material for holding the drugs together. So prepared, the pessaries have the consistence of wax while cold, and become liquid in a few minutes when introduced into the vagina.

Hewitt, Dr. Graily.—*On the Uterine Douche as a Therapeutic Agent; new instrument.* Report of Obstet. Soc., Lancet, Feb. 22nd, 1862.

Believing the uterine douche to be a most important agent in the treatment of certain chronic uterine ailments, the author has been led to construct an instrument by means of which continuous irrigation of the vaginal part of the uterus with fluid may be more readily and easily carried out than by the ordinary apparatus employed. The new instrument consists of a reservoir, folding up when not used, and holding nearly a gallon of water, and a long, flexible tube. The fluid is injected by the action of gravitation alone; no manual force is necessary to be employed.

Keiller, Dr.—*Induction of Premature Labour in cases of Constitutional Affections.* Ed. Med. Journ., 1861-62, p. 878.

The author brought before the Obstetrical Society of Edinburgh some cases in which pregnancy was associated with various constitutional diseases, and in which he had found some difficulty in deciding as to the propriety of inducing premature labour to save the patient's life or mitigate her sufferings. In a case of double acute bronchitis, with great dyspnœa, labour was induced, with the effect of relieving the patient, but the child was not quite viable. The next was a case of phthisis, in which the dyspnœa was very intense. Labour was induced. and a live child obtained, the patient being, in consequence, very much relieved. In a case of cardiac disease and a case of cerebral disease, the operation was contemplated, but not performed. A case of severe vomiting was also mentioned in which the patient had died from the effects of the vomiting, at the third or fourth month. He regretted that the uterus had not been emptied in this case.

SPECIAL DISEASES.

VERSIONS, ETC., OF UTERUS.

Cowan, Charles.—*Case of Inversion of the Uterus occurring spontaneously eighty hours after Delivery.* Ed. Med. Journ., 1861-62, p. 1105.

The subject of the case, æt. 40, was delivered by the forceps of her first child. The placenta was found in the vagina ten minutes afterwards, and removed. In half an hour there was slight, easily restrained hæmorrhage. The uterus was found firmly contracted upwards of an hour after; a bandage applied, and morphia given. On the morning of the fourth day all was going on well; in the evening she became ill, had palpitation, sickness, and a pulse of 112. There was no apparent reason for this change. The next day she was incoherent, pulse 130, and very weak; examination requested and refused, patient stating "all was right." On sixth day pulse 150; fœtor now very offensive, and examination insisted on. The vagina was found occupied by the uterus, inverted. It was then found that on the day she became worse she had got out of bed and, in the absence of the nurse, walked across the room, and then became insensible. The reposition of the uterus was effected easily under chloroform. Recovery followed.

NOEGGERATH, Dr.—*Inversion of the Uterus of thirteen years' standing, with a novel Method of Reduction.* Amer. Med. Times, April 26th, 1862.

The case was that of a Frenchwoman, and repeated unsuccessful attempts had been made previously to reduce the tumour. The uterus was nearly completely inverted, the sound passing half an inch inwards round the pedicle. The author succeeded in reducing it at one operation. He introduced the hand into the vagina, and made strong pressure against the tumour with the hand and with a rectum bougie; these attempts failed. He then altered his plan, and made pressure in such a manner that one corner of the uterus only was pressed upon, and the width of the part having to pass through the ring lessened. Perfect success followed this manipulation. He contends that this is a much better plan than making pressure directly and vertically upwards against the centre of the tumour; and, further, that by the plan proposed we probably imitate the process, inverted, at least, by which the inversion is first brought about.

BIRNBAUM.—*Inversion of the Uterus of two years' standing; Reposition after three months' treatment.* Mon. f. Geb., Sept., 1862.

The patient, æt. 22, had been delivered two years previously, the labour having been very easy, but very rapid; the placenta followed quickly, without hæmorrhage. On the fourth day afterwards a round tumour appeared externally, which was recognised as the inverted uterus, and pushed back into the vagina, but not further reduced. The mother recovered from the effects of the labour, and suckled her child for a year. Severe menorrhagia now set in; the uterus was still inverted. When seen by the author subsequently, she was very anæmic; there was difficulty in defecation; a smooth, round, defined tumour occupied the vagina, attached above by a broadish pedicle, round which was felt a margin like that of the os uteri. The tumour itself interfered with the introduction of the sound by the side of this pedicle, in order to ascertain whether the tumour was an inversion of the uterus or a polypus. The os lay high, and in order to reach it more easily the tumour was drawn down by the hooked forceps. In so doing, the tumour changed in form. A considerable pulsation was felt in the pedicle of the tumour, and the os uteri was more distinctly recognised. It was clearly an inversion of the uterus. An attempt was made to push back the fundus, but it did not succeed, and a like failure attended further efforts made with the whole hand in the vagina, the patient being under chloroform. After the next menstrual period had passed over, pressure was made daily for a quarter of an hour together for four days, with the uterine sound, furnished with a rounded, padded head, against different parts of the surface of the tumour. Menstruation now interfered with further attempts for twenty-one days. A gum tampon, distended with air, was kept in the vagina for some days, without result. The use of pressure by the bulbed sound was again resumed three weeks later, and the tumour almost; but not completely, returned, when menstruation again set in. Finally, by further use of this instrument, the use of the air-pessary being conjoined, the cavity of the uterus was restored to its natural shape, and menstruation resumed the natural four-weeks' type.

PICARD.—*On the Inflexions of the Uterus in a state of Vacuity.* 8vo, Paris, 1862, pp. 168.

By the term inflexion is meant such a change in the form of the uterus that the axis of the organ is flexed, and the fundus approaches the cervix. First, the author directs attention to Rouget's researches, demonstrating the presence of an erectile tissue around the uterus, and analogous to that of the penis; this tissue undergoes, according to Rouget, a regular erection during menstruation. This erection has the effect of lengthening the uterus as a whole. The author contends that, if the individual is not perfectly healthy, and the condition of the uterus, of the cervix, or of the uterine appendages, be not as usual, a slight bending of the organ easily occurs. He believes that in all cases when menstruation occurs too soon after labour a great predisposition to retroflexion is thereby created; so also in cases when the woman does not suckle her child, and involution of the uterus is hindered. After abortions the same causes come into operation. Abortion is frequently also the consequence, and not the cause, of the flexion. In rare cases flexions are congenital. Compression of the uterus from above, or in other directions, may cause flexion. The condition of the uterine tissue is sometimes the cause, as when the organ is in a state of fatty degeneration, or softened and hypertrophied. The symptoms of those inflexions, and their treatment, receive next a due share of attention. The author employs the sound as a means of diagnosis, and recommends the plan of Kiwisch—continuous wearing of an internal elevator—as the best, careful regard being at the same time paid to the complications and to the whole condition of the patient.

ARNETH.—*On Flexions of the Uterus.* Petersb. Med. Zt., 1861, p. 121.

To understand the occurrence of flexions of the uterus, we must recollect that the upper part of the uterus is free, unsupported; the lower part is fixed; if circumstances arise, the effect of which is to increase the size or weight of the upper part, or to diminish the fixedness of the lower part, then a predisposition to flexion is produced. Deficient restitution of the cellular tissue connecting the cervical and femoral portions of the uterus after delivery, and chronic catarrh of the uterus, are the two most common causes of flexion. The atrophy of the uterine walls at the seat of flexion is an effect, and not a cause. Relaxation of the uterus, and everything leading to it, is a very important element in the etiology of flexions; this is a condition frequently following on child-bed, especially when followed quickly by diseases of the sexual organs. Frequent abortions greatly tend to produce this result. Lateral deviations of the uterus are frequently observed, but do not give rise to much difficulty or suffering. And, indeed, flexions in the anterior or posterior direction often exist without giving rise to marked symptoms, these only supervening in such cases after this condition has existed for some time. The three indications for treatment are—1. To remove the relaxed, congested, or inflammatory symptoms which are present. 2. To restore the organ to its natural position, and there to maintain it. 3. To treat the secondary symptoms. Hip baths, the water used being at first lukewarm, but afterwards colder, to be used.

Respecting the restoration of the uterus to its proper shape, this is to be effected by the sound. Pessaries have frequently a good effect in removing the sufferings of which patients complain, as remarked by Velpeau and Aran. Becquerel ascribes the relief afforded to slight inflammation thereby produced; the uterus thus becomes more fixed. With the latter explanation the author is not satisfied. The hypogastric bandage affords relief in many cases. The author has employed electricity in some cases, with the effect, not of removing the flexion, but of relieving the sufferings of the patients.

DUNCAN, Dr. J. MATTHEWS.—*Diphtheritic Inflammation of Procident Uterus and Vagina.* Ed. Med. Journ., Oct., 1862, p. 312.

The author draws the following conclusions from a case specially considered in this paper:—1. That diphtheritic inflammation of the mucous surfaces of the female genital organs, when exposed in procidentia, is not uncommon. Many writers describe deep ulcerations, perforations of the bladder, and gangrenes, of which this kind of inflammation may be the starting-point. 2. That the diphtheritic patches may maintain their position and characters for many weeks, and probably for much longer. The new membrane adheres to the subjacent mucous surface with degrees of tenacity varying at different times. It is often almost impossible to separate it from the portions of uterine mucous membrane that are covered by it, whilst its attachment to the vaginal mucous membrane is less firm. 3. That diphtheritic patches in this situation are probably sometimes supposed to be ulcerations. The deception of the observer is easily accounted for by the appearance of the patches, their elevated margins, and the red-enclosing line. 4. That the detachment of such diphtheritic patches takes place in various ways. (*a*) A superficial gonorrheal inflammation may throw off the membrane, and the subjacent mucous tissue be left healthy or superficially abraded. (*b*) The appearances observed may be explained, in several cases, by the gradual desiccation of the membrane and its detachment like an extensive scale or scab. The subjacent and non-exposed membrane is left entire and healthy, or ulcerated in parts. (*c*) Replacement of the affected parts, and their retention within the pelvis, produces a slow detachment, which he has not carefully observed. 5. That the diphtheritic membrane may gradually become thinner and thinner, while at the same time the subjacent epithelial structure is destroyed. In short, the diphtheritic patch may degenerate into an ulcer. This change may affect an extensive patch, or only parts of it.

AFFECTIONS OF OS AND CERVIX UTERI.

HICKS, Dr. BRAXTON.—*On Cauliflower Excrescence of the Os Uteri.* Guy's Hosp. Rep., 1861.

Seven cases in which this disease was treated are related. The author believes that the treatment is efficacious in proportion as it is early; and if the growth be removed at an early stage of its growth, its reappearance is not to be dreaded. Where the whole disease cannot be removed, a partial alleviation of the symptoms follows an operation, the discharge and the hæmorrhage being so far arrested. The knife is objectionable, both because it sometimes cannot be easily used, and because of the hæmorrhage which may follow; the ligature is objectionable for other reasons, The wire-rope écraseur, an instrument constructed by the author, has been found well adapted for the removal of the diseased parts; and if the rope cannot be passed round the tumour by the hand, this can be effected by means of a double canula. With reference to the nature of the affection and the various forms presented in different cases, this depends, it is stated, on the tissue affected It is allied to encephaloid, and in the same case the body of the uterus and upper part of the cervix may present the appearances of scirrhus, while the surface presents that of the cauliflower excrescence and the vaginal mucous membrane that of epithelioma.

BRAUN, Prof. — *On Menstrual Retention.* Allg. Wien. Med. Ztg., 1861, Nos. 13, 53.

The author relates four cases of menstrual retention. In the first case the patient, æt. 17, had suffered from menstrual retention, due to imperforate hymen and atresia of the vagina for a short distance above this point, for a period of ten months. An operation was performed, and relief afforded. An attack of peri-uterine hæmatocele occurred on the fourth day. At the end of two months she recovered, and subsequently menstruated regularly.

The three other cases are cases of acquired atresia of the vagina or uterus. In two cases there was closure of the os uteri, consequent on operations for removal of portions of cervix; in the fourth case atresia of the vaginal aperture, consequent on ulcerations during an attack of fever.

DAVIS, Dr. HALL.—*Complete Occlusion of the Os Uteri and Retention of the Menses following Difficult Labour.* Rep. of Obst. Soc. of London, Lancet, April 19th, 1862.

In this case there was occlusion of the os after a difficult labour. After the labour there was a purulent discharge from the vagina for three months. Fifteen months later she had not menstruated at all since the labour; the uterus was the size of a four months' gravid uterus; no orifice to be felt at the situation of the os uteri. Six ounces of a treacly, menstrual fluid were drawn off by a canula and trochar, and a catheter left in the uterus. Attempts to keep the orifice open, together with premature exertion on the part of the patient, resulted in an attack of pyæmia. After passing through a severe illness of some days' duration, she finally recovered, and menstruation took place regularly.

Prell.—*Incarcerated Hæmatometra, produced by acquired Atresia of the Os Uteri.* Mon. f. Geb., Dec., 1861, p. 447.

In this case a woman, æt. 43, who had never conceived, but who had been regular, ceased to be so in April, 1860. Swelling of the breasts, gastric irritation, and enlargement of the abdomen, were next noticed, and pregnancy suspected. On July 23rd she had a sudden attack of pain and bearing down. On examination it was thought that there was retroversion of a gravid uterus present, and pressure was made on the tumour, with the idea of reducing it. During this attempt there was a sudden escape of a bloody fluid from the vagina, and at the lowest part of the swelling was now found a small opening, that of the os uteri. The uterus had been filled with blood. In October menstruation again became regular.

INFLAMMATION OF UTERUS.

Routh, Dr.—*Lectures on Endometritis.* Brit. Med. Journal, Feb. 22nd, March 1st, 8th.

The object of this series of lectures is to restore "endometritis" to its just position in uterine pathology. The author, holding with Dr. Tyler Smith that very many of the uterine diseases we have to treat are secondary to inflammation of the mucous membrane of the cervix uteri, goes a step further, and accuses the entire uterine mucous membrane—not that of the cervix alone.

Endometritis consists of four varieties:—1. The mucous variety, or ordinary uterine catarrh. 2. The muco-purulent variety, the discharge being mixed with pus, and opaque. 3. The sanguineo-purulent stage, when the discharge is tinged with blood and highly tenacious. 4. The stage of menorrhagia (?). These varieties are described in detail, and the means for their cure pointed out. The author employs in chronic cases dilatation of the cervix and injection of the uterine cavity with tincture of sesquichloride of iron. When the mucous membrane is softened it is recommended to scrape it off by means of a gouge, and then to employ the injection.

Routh, Dr.—*Lecture on the Consequences of Endometritis.* Brit. Med. Journal, May 3rd, 24th, 31st.

The consequences of endometritis here described are—1. Mucous polypi, which, when within the uterus, frequently give rise to menorrhagia, and the treatment for which is use of tents, removal of mucous membrane by gouge, and injection. 2. Dysmenorrhœa. 3. Occlusion of the os, external and internal, of which there are two varieties, the senile and the intermittent. 4. Physometra and hydrometra. 5. Displacement of the uterus, anteversion, and retroversion, which are accompanied always with more or less endometritis. The author finds both Simpson's and Moir's instruments for cure of retroversion objectionable, on account of the endometritis produced by them. He employs a lower stem, consisting of wire spirally arranged, and lying in the vagina, to the upper end of which is attached a smaller spiral spring, lying within the uterus, a disc of gutta percha being placed between the two, and on which the uterus rests; the whole is covered by india rubber. The instrument is introduced by means of a stilette passing through the centre, and retained by india-rubber cords externally. It is so made as not to reach quite to the fundus of the uterus. 6. Hypertrophy of the uterus, divided into two classes, following Huguier's plan, *i.e.* sub-vaginal and supra-vaginal hypertrophy of the cervix. 7. Sterility.

NEUROSES OF UTERUS.

Day, Dr. W. H.—*Severe Neuralgia of the Uterus following Premature Labour; early discharge of Liquor Amnii.* Brit. Med. Journ., Jan. 4th, 1862.

Two cases are related. In the first there was draining away of the liquor amnii at the third month of gestation, increasing a month later, and recurring slightly at intervals till within a month of delivery, delivery taking place at the seventh month of a female child, which died at the end of six days, after several convulsive paroxysms; it was flaccid and shrunken, and weighed only a pound and a quarter. A portion of the placenta and membranes were putrid. The patient suffered severely from pain in the neighbourhood of the uterus, which was believed to be neuralgic in character, for some time after the labour, and became very weak and debilitated in consequence. Iron, quinine, nourishing and stimulating diet, and sedatives, were employed with advantage, and recovery followed. In the second case the patient was attacked, at the fourth month of her pregnancy, with a colourless loss, which soon subsided; occurred again, after mental disturbance, at the sixth month, with irregular labour-pains. A broad binder was applied, and relief afforded. At the eighth month symptoms as of labour set in—regular pains, dilatation of os to size of crown-piece. After a dose of opium these subsided, and the patient went her full time, being finally delivered of a healthy living child.

DYSMENORRHŒA.

Coghlan.—*On Dysmenorrhœa and Sterility.* No. II. Med. Times and Gaz., Feb. 22nd, 1862.

In a previous paper the author has described a peculiar knife for the purpose of incising the os uteri in cases of dysmenorrhœa dependent on mechanical obstruction of the os and cervix uteri. He now employs the same knife, but makes it a little less full (see 'Year Book' for 1861). In order to prevent the cicatrization which inevitably occurs, and which to a certain extent contracts the opening afterwards, he inserts a roll of lead by means of a peculiar instrument, a "dilator," now described and figured. It has a beak like the extremities of a pair of forceps, bent and small at the point. Round this portion the lead is rolled tightly, and the instrument then inserted (after previous incision); the blades are then separated, and the leaden tube thus expanded. After expanding the tube to the necessary extent the instrument is withdrawn, leaving the leaden tube in the cervical canal. It is stated that the plan of incising the os and cervix and maintaining the patency of the canal by this method has proved very successful.

MEADOWS, Dr.—*On Obstructive Dysmenorrhœa, with the description of an Instrument for dividing the Cervix Uteri.* Lond. Med. Rev., June, 1862.

The author contends that the opinion held by some authorities, as to the ordinary narrow condition of the internal os uteri, and their consequent deduction that the use of dilators, &c., cannot be necessary, is inapplicable to the condition of things present in menstruation. He holds that the absence of apparent stricture after death is no proof of the condition of the parts during menstruation, and that the symptoms present in dysmenorrhœa point to the fact that there is not a sufficient outlet for the secreted fluid. The evidence of the uterine sound, used while menstruation is absent, is not always to be depended on, for it may be difficult to pass this instrument in cases where there is no menstrual suffering. The author has found very beneficial results from incising the cervix uteri in cases where symptoms present indicated obstructive dysmenorrhœa. The new instrument here described and used for the above purpose is provided with two narrow blades, one on each side, which are simultaneously protruded, and an incision made into the cervix on each side by moving a bolt in the handle; the effect is that the upper part of the cervix is slightly, the lower part more deeply, divided.

FIBROUS TUMOURS OF THE UTERUS—POLYPI.

BRAUN, Prof.—*On Expulsion of Uterine Polypi induced artificially, and their removal by the Galvano-caustic.* Wien. Med. Halle, 1861, p. 49.

Eight cases are related in which uterine polypi were removed by the galvano-caustic apparatus. In some of the cases the os uteri was dilated by means of sponge-tents, and uterine action induced, in order to bring the polypus into the vagina.

BROWN, I. BAKER.—*History of a Fibrous Tumour within the Abdomen; Exploration by Abdominal Section; Removal; Death after eighteen days; Examination of the Tumour, and Autopsy.* Lond. Med. Rev., Jan., 1862.

The patient, æt. 34, had had a tumour growing in the abdomen for seven years, supposed to be a solid tumour of the ovary. On opening the abdomen it was found that the tumour was uterine. It was removed, together with a portion of the uterus, the mass removed weighing upwards of seven pounds. Death took place eighteen days after the operation.

KÖBEL.—*Sub-mucous Fibroid Tumour of the Uterus; Cure by Torsion.* Würt. Corr. Bl., No. 42, 1862.

The tumour, when removed, was almost the size of a child's head, 23½ centimètres in circumference and 10¼ centimètres long. The patient's age was 41. The os uteri was too small to admit the hand, and it was incised in three places. The tumour, fixed near the fundus, was twisted round on its long axis, but could not then be extracted. Pains, as of labour, set in a few hours later, and the tumour was expelled. The patient recovered. The pedicle was about two square inches in thickness.

HICKS, Dr. BRAXTON.—*Notes on two cases of Uterine Polypi.* Guy's Hosp. Rep., vol. viii, p. 142.

In one case there was a semi-malignant polypus of the uterus present, which was removed. Subsequently there was formation of similar growth in the fundus uteri, extending into the intestines. The patient's age was 47, the polypus one and a half inch in diameter, growing from a thickened os uteri. Death took place suddenly from diseased heart; the large mass found at the fundus uteri had the characters, below, of a fibrous tumour; above, it had the characters of a cerebriform tumour, and the tumour had penetrated the intestine. The second case was one of intra-uterine polypus, removed by Dr. Hicks' annealed steel-wire-rope écraseur. The patient, æt. 43, recovered.

PERI-UTERINE DISEASES.

DUNCAN, Dr. J. MATTHEWS.—*On Uterine Hæmatocele.* Ed. Med. Journ., Nov., 1862.

The author remarks that, although this disease is easily recognised and identified, many important points in its pathology remain still unsettled, the chief of these regarding the questions as to its various origins and its various situations. That in both these matters there is no uniform law, he feels convinced. Every possible source of bleeding in the neighbourhood of the affected parts has, on different occasions, been invoked, and many of them substantiated post mortem. With reference to the question as to the anatomical seat of the hæmorrhage, the author considers that it remains yet to be determined conclusively, for although there can be no doubt that the hæmorrhage does in some cases take place into the peritoneal cavity, yet it may be questioned whether the extra-peritoneal form of hæmorrhage may not be a common form of the disease. And he remarks that it is natural to suppose that few proofs of it should be afforded post mortem, seeing that patients would probably more often recover from it. The cephalhæmatoma, but especially the thrombus of the vulva, offer themselves as analogies, and the author has several times seen similar effusions beneath the walls of the vagina in women dying in child-bed; again, sanguineous effusions do sometimes take place between the layers of the broad ligament. Moreover it is difficult to conceive how, if the effusion be intra-peritoneal, the uterus should so readily return to its natural mobility after a process of evacuation, suppuration, and collapse of the sac has been going on around it. The great distension of the recto-vaginal septum and pressure downwards of the effused blood, which occur in the characteristic retro-uterine hæmatocele, render it difficult to suppose that the advancing mass is pushing the peritoneum before it. The absence of tenderness in large hæmatoceles, the rounded form of the tumour felt projecting above the pubis (as in a case related by the author), are also in favour of the views here put forth. The same difficulty involves the pathology of pelvic abscess, as to their intra- or extra-peritoneal seat. In the cases of hæmatocele now related the causes, so far as they could be made out, were—coitus during menstruation, suppression of the menses by cold, and menstrual irregularity. In two cases the women suspected themselves to be pregnant. The state of the blood effused varies. In one case related it was felt by the finger passed through an artificial opening in the condition of a firm clot, but at the lowest part was collected a small quantity of bloody fluid, of a syrupy consistence. In many cases the tumour is so small that it cannot be decided whether fluctuation is present or not. In the first case related there was most indistinct fluctuation at first, but it was made out just before and after evacuation of the cyst. The blood was syrup-like, and had the odour of slightly decomposing flowers. In only one case was pus detected by the naked eye. After the cyst had been open a short time intense fetor was observed. In all the cases, after complete evacuation of the blood pus became mixed with the grumous discharge as the cyst was contracting; this pus had not a fetid odour. Pus mixed with blood may be obtained on opening some cases of hæmatocele where the disease is of old standing; not otherwise.

The author then relates in detail six cases which have come under his notice. In the first case, which he believes to have been probably intra-peritoneal, the attack came on from the patient taking cold during menstruation. The woman, æt. 28, was in a dying state for two days, and a large swelling was then evident in the abdomen. About a month after, the tumour was large, tender, and painful, and its size led to the belief that it was an ovarian cyst, into which hæmorrhage had taken place. A few days later the abdomen was tapped, and 115 ounces of syrupy blood drawn off. Great improvement for a time followed, then a recrudescence, then a reopening of the aperture, and a discharging of much more bloody fluid, then rapid contraction of cyst, and improvement to such an extent that the patient left the hospital. In Case 2 the patient æt. 21, became affected in consequence of injurious coitus during menstruation. Ten days afterwards there was found a hard, solid tumour in the left iliac region, reaching to a little above the umbilicus; there was great tenderness and grave constitutional disturbance. No recto-vaginal bulging noticed, the uterus pushed over to the left side. When the abdomen became soft and easily handled, the facility with which the parietes could be depressed above the tumour was felt to be hostile to the supposition of its upper wall being formed of coherent intestines. A month after admission the tumour had nearly disappeared, and the uterus had recovered its natural position. Menstruation continued during the first fourteen days she was under observation, ceased for three days, then returned for four days. It was bright, not fetid; moderate in quantity. In cases 3 and 4, the position of the tumour was below and behind the uterus; this organ was displaced upwards and forwards; hence these were cases of "retro-uterine" hæmatocele. This term, the author remarks, is very improperly applied to every case of uterine hæmatocele indiscriminately, inasmuch as the effusion is by no means always retro-uterine. In Cases 1 and 2, for instance, there was no tumour at all behind the uterus. In Cases 3 and 4 it was found difficult at the bedside to adopt the view that the hæmorrhage was into the peritoneal cavity itself. In both of the Cases 3 and 4 the tumour was punctured, and the contents evacuated. In the latter case great constitutional disturbance followed, with symptoms of pyæmia, but both recovered, and the tumours disappeared. In both cases the fluid collection in the pelvis extended high up in the hypogastric region. In Cases 5 and 6 the tumour was comparatively small, and the term "peri-uterine" is applied to distinguish them, on account of their resemblance in situation and relations to the common peri-uterine inflammatory indurations, or to the induration produced by pelvic peritonitis. In Case 5 the tumour was situated at the left and posterior side of the brim of the pelvis, fixing and displacing the uterus forwards and to the right. It was punctured, and a brown, bloody fluid evacuated. A second puncture was followed by escape of eight ounces of fetid, bloody fluid, and some fetid gas also escaped. A discharge of purulent character from the vagina was noticed during the greater part of the time the patient was under observation, and she was finally dismissed cured. In Case 6, after illness of nearly a month's duration, the uterus was found fixed in its natural position by a hard, tender swelling, high in the pelvis, between the uterus and rectum, to the left of the middle line. Six days later the patient passed a quantity of blood per rectum, at first red, afterwards brownish. A few days later profuse menstruation, lasting for seven days, set in, and no further pain was felt. The mobility of the uterus was restored, only a thickening and induration of the tissues in the seat of the tumour being felt.

In the diagnosis, the history, if well made out, offers great assistance; but if the tumour be small, it may still be difficult to make a satisfactory diagnosis of this disease from pelvic inflammatory induration or abscess, from pelvic peritonitis, and from extra-uterine pregnancy. The statement of Dr. West, as to the elongation of the uterus being a diagnostic indication of extra-uterine pregnancy, requires, the author states, to be carefully guarded. The question as to general treatment requires no remarks. With reference to the surgical treatment, there is great diversity of opinion. In one case (No. 6) the tumour was spontaneously evacuated; in another (No. 2) the effusion rapidly disappeared; in some cases there may be no safe access to the tumour (as in No. 2), the tumour may be too high to operate from the vagina, or it may be feared, when the tumour is suspected of being extra-peritoneal, that the peritoneum may be injured by a supra-pubic operation. But it is still often good practice to open the sac, and in many cases the only good practice. Thus in Case No. 1 there was every reason to expect bursting of the sac; this was, by the operation, averted. In Cases 3 and 4 the operation shortened the patients' sufferings, husbanded the strength, and contributed to recovery. If left alone, the tumours would never have burst spontaneously into the vagina or rectum. In Case No. 5 the symptoms were so severe and the progress so slow that any means likely to assuage suffering and remove disease were justifiable. In another case the disease had continued for more than a year without any signs of the tumours, which were large, pointing in any direction. The author considers that Case No. 5 illustrates the necessity for a free opening in some cases. Freeness of the opening will not, however, always prevent penetration of the tumour in more than one new direction. In operating, a trocar or guarded bistoury may be used, the operator being careful to wound only in the middle line in the case of vaginal operations on retro-uterine tumours, and to avoid injuring any pulsating vessel. The introduction of the finger to break down clots is not necessary or proper. Care must be taken in other positions of the tumour to avoid injuring the rectum or bladder. As to the absorption of the blood, the author believes that, if it becomes dissolved and syrup-like, it becomes always mixed with pus, and is not absorbed, but discharged. If it remains in form of clot, it may be absorbed. Mere bulk is not necessarily an indication for operation, but large effusions are less likely to be absorbed than smaller ones.

FERBER.—*On the Pathogeny of the so-called Retro-uterine Hæmatocele.* Arch. f. Heilk., 1862, No. 5, p. 431.

The author remarks that the number of theories put forward as to the pathogeny of retro-uterine hæmatocele is very considerable. A true interpretation of the facts can only be arrived at by an extended series of observations, not simply of cases where the condition is well marked, but of cases where slight, less considerable, peri-uterine effusions take place. Few observations have yet been made as to the effects and appearances produced by such slight effusions. A peculiar pathological change noticed in individuals who have passed the climacteric period is presence of brownish, dark patches on those parts of the peritoneum which cover the internal genitals. These pigment-deposits are irregularly placed and of various sizes and shapes, but they are chiefly to be met with in the retro-uterine pouch. Under the microscope there are indications of remains of capillary vessels in these patches. In many cases villous-like processes are visible, having pigmentary deposits of the kind just mentioned. These appearances are not met with so frequently in younger individuals; in the latter case we find reddish spots made up of capillaries filled with blood, also processes brightly injected, and only in a few cases are found in the lower part of the retro-uterine fossa traces of blood-residue. As a further stage of the injection and increase of capillaries we have pseudo-membranous formations; these may be found loose on the peritoneal surface of the uterus. Under the microscope these latter exhibit numerous, narrow, interlaced capillaries and extravasations. The author here gives the special pathological conditions found in two cases, illustrative of the foregoing remarks. He considers that the observations made point to the conclusion that in many cases of retro-uterine hæmatocele, perhaps in the majority, we have present a hæmorrhagic pelvi-peritonitis, and that the manner in which the hæmorrhage occurs is analogous to that which is observed, according to Virchow, in hæmatoma of the dura mater when the bleeding occurs from the newly formed vessels, and into the spaces between the successive layers of the inflammatory false membrane. The etiology of hæmatocele is various, but the explanations which have been given have been, for the most part, based on extreme cases, whereas in the majority of cases, the patient recovering, no opportunity is afforded for inspecting more closely the conditions present.

VIRCHOW, Prof. — *On Diffuse Puerperal Metritis and Parametritis.* Virchow's Archiv., 1862, p. 415.

By parametritis is meant the inflammation of the fatty and cellular tissue at the lower and lateral borders of the uterus. This tissue is frequently the seat of puerperal affections. A swelling of the tissue, probably preceded by hyperæmia, is first noticed; the tissue becomes thickened, hardened, opaque—a sort of hardened, œdematous condition. A fluid, first transparent, then opaque, issues on section; the cells are found, by microscopic examination, to be enlarged, their contents thicker, and in greater quantity, not becoming quite transparent on adding acetic acid. The nuclei are enlarged, and undergo division. In a further stage of the affection the cells themselves split up, and groups of smaller, roundish, granulative cells are met with, in place of the spindle-shaped, simple cells. These changed elements undergo, in many places, an early fatty metamorphosis; the muscular tissue may be similarly affected; the involution of the uterus may be for a considerable time hindered by the presence of this affection. The most usual seat of the affection is the subperitoneal tissue behind, in front of, and at the sides of the uterus, but it frequently extends from these points lower down. When epidemic influences are in operation it takes the characters of a diffuse phlegmon, and then the lymphatics are also, and at an early period, affected, and the alteration in them consists of "lymph-thrombosis," the vessels in question being distended with fluid or nearly solid yellow or yellowish-white, sometimes puriform-looking, material. There is no evidence of inflammation, except as secondary, within the lymphatic vessels themselves. The presence of such a condition of the lymphatics betokens a serious disorder. The coagulation of the lymphatics is produced by presence of some deleterious agent at the seat of the diffuse inflammation. The lymphatic glands in the lumbar, inguinal, and iliac regions are enlarged in these cases. The whole affection has the greatest possible resemblance to the erysipelas and pseudo-erysipelas with which we are familiar on the outer surface of the body, and the author proposes the name "erysipelas malignum puerperale internum" to designate it.

DISEASES OF THE OVARIES.

DE MERIC, VICTOR.—*On Gonorrhœal Ovaritis.* Lancet, June 14th, 1862.

The diagnosis of gonorrhœa in the female being excessively difficult, the author has confined his remarks on this imperfectly known condition, gonorrhœal ovaritis, to cases where women were contaminated by their husbands, this circumstance leaving no doubt as to the nature of the discharge on the female side. Authors have been alive to the possibility of ovaritis occurring as a complication of gonorrhœa, but the recorded facts are very few in number. The author then relates a case shortly, as follows:—A woman having had an abundant discharge, staining her linen with large, yellow spots, for three weeks, was obliged then to take to her bed from severe pain in the left iliac region. There was pain of very acute character on pressure over the left ovary; the diagnosis formed was that subacute metritis had suddenly extended along the Fallopian tube and reached the ovary. The patient had been exposed to cold at night, and this was supposed to account for it. It was then found that the husband was suffering from gonorrhœa; two days later the discharge had diminished; counter-irritation and astringent injections effected a cure in three weeks. The author considers this was a case of gonorrhœal orchitis. In the second case the patient had been suffering for three weeks from a communicated discharge of thick, yellow character. Three days previously she began to have pain over the left ovary, which pain had increased. The pain was very severe. Fomentations and poultices were ordered, warm-water injections, rest, and counter-irritation, and subsequently astringent injections. The discharge began to diminish in three weeks, the pain earlier. No induration could be subsequently felt about the ovary. In these cases the pain, though usually felt in the region of the ovary, may extend to the neighbouring parts, constituting a kind of severe rheumatism, as in a third case related. The author remarks that in none of these cases was the uneasiness situated in the inguinal region. It is well known that, as a rule, orchitis occurs towards the decline of the gonorrhœal discharge, whereas in these cases the ovary became affected at the acutest point of the disease; this would seem to militate against the analogy here presumed to exist. Another difference is absence of effusion, and consequent hard deposit, such as is observed after orchitis.

TAYLOR, JOHN.—*Gonorrhœal Ovaritis.*—Lancet, July 12th, 1862.

Two cases are related fortifying the views expressed by M. de Meric on this subject.

SIMPSON, Dr. ALEX. R.—*Ovarian Cyst containing Hair.* Ed. Med. Journ., May, 1862.

The patient in this case, æt. 40, unmarried, had a growth, chiefly in the left side of the abdomen, of several years' duration. She was tapped, and a greenish-yellow fluid escaped, like the contents of a large abscess; but this fluid consolidated into a mass like butter soon after. At the end of the operation came away a single red hair. Two months later a second tapping was performed, and iodine injected. On one part of the cyst-wall a hard spot was felt by the sound. Death took place six weeks later. The ovarian cyst had a mass of tangled hair, like that on the pubes of the patient, within it. At one spot the wall of the cyst was calcareous; at another was a skin-like patch of follicles, from which grew long hairs; the ovarian cyst was very intimately adherent to the uterus, to the omentum, and also to the intestines.

GILLESPIE, Dr.—*Cystic Tumour of the Ovary containing Hairs.* Ed. Med. Journ., May, 1862.

A patient, considerably emaciated, who had been ailing for a few days with slight diarrhœa, occasional vomiting, and pains in the belly, became suddenly affected with aggravations of these symptoms, especially of the vomiting, and died the same day. The peritoneum contained a considerable quantity of pus; there was universal inflammation of the peritoneum. The right side of the pelvis and iliac fossa was filled by a sac containing fluid; this was an ovarian sac, and there was found in it a small, ulcerated opening, from which a large amount of greenish pus escaped. A bundle of hair was found in the sac, floating, and free of attachment. The uterus of the sac itself was intensely inflamed. The symptoms closely resembled those due to irritant poison.

SIMPSON, Dr. ALEXANDER R.—*Tumour of the Ovary, and Peritoneal Hydatids.* Ed. Med. Journ., May, 1862.

This was a rare form of ovarian disease. The patient, æt. 22, single, had had menstrual suppression for nearly a year, soon after which the abdomen began to swell, and she was shortly obliged to leave her situation. The last two months, growth very rapid, strength failing. Pains in the left iliac region, pains in the stomach, had been lately felt, and for three weeks there had been a yellowish discharge from the vagina, and for two weeks dropsy of the ankles had been noticed. Tapping was performed, and 190 ounces of a greenish-yellow fluid drawn off, and a month later performed a second time, ten days after which she died. The cyst was found to have ruptured, and its contents passed into the abdominal cavity; the peritoneum was extensively inflamed; there were "a series of remarkable bodies in the subperitoneal cellular tissue of the pelvis, which appeared to be hydatigenous formations."

DEMARQUAY.—*Apoplexy of the Ovary; connection between Disease of the Ovary and Metrorrhagia.* Gaz. des Hôp., No. 6, 1862.

A case is related in which a woman, who had been delivered six months before, was the subject of metrorrhagia. An easily bleeding ulcer was observed at the os uteri, on the cauterization of which the bleeding ceased. At the next menstrual period, however, severe pain was felt in the abdominal region, and death took place with signs of peritonitis. Pus was found in the small pelvis, the uterus covered with false membrane, the right ovary in a state of suppuration. In the left ovary, which was covered with inflammatory deposit, and the size of a nut, were found several hæmorrhagic spots.

NICHOLSON, JOHN F.—*Ovarian Cysts.* Brit. Med. Journ., Feb. 15th, 1862.

Two interesting cases are here related. In the first the patient, æt. 42, died when five months pregnant, after nine days' illness; the symptoms were obscure; they were those of decided peritonitis, and it was thought possible that there was extra-uterine pregnancy with rupture into Douglas's fossa. She died excessively prostrated and tympanitic. On post-mortem examination there was found no peritonitis; there was effusion of a bloody, tenacious fluid on the right side, about the cæcum, and this was found to proceed from an ovarian multilocular cyst, which was connected to the right side of the uterus and had the size of a child's head; the uterus normal, and containing a five months' fœtus. There was no suspicion of the presence of an ovarian cyst previously.

In the second case the patient, æt. 48, was under treatment for about a year; there was ovarian dropsy. It was believed by some who examined the patient that the tumour was partly fluid, partly solid, by others that it was multilocular, and it was imagined that there were no adhesions, and the operation of ovariotomy was considered advisable. After death there was found a large cyst proceeding from the right ovary, adherent almost everywhere, extending from the brim of the pelvis to above the umbilicus, and within it a smaller cyst, with very thin walls, which latter had burst with the larger enclosing cyst. About a gallon of limpid serum escaped on cutting into the large, enclosing cyst; there was no solid matter. The case is related by the author to show that great caution is needed before proceeding to extirpation, which he considers to have been impracticable in this case.

SOLTAU, W. F.—*A Case of Ovarian Dropsy in which the Cyst three times burst into the cavity of the Peritoneum.* Med. Times and Gaz., May 24th, 1862.

The case was under observation for five years. She was tapped, and a gallon and a half of fluid drawn off in April, 1857. In September, 1857, the tumour having again appeared, she slipped in going down stairs, and fell forwards on the abdomen. She felt a little queer and faint, but had no pain. During the night and four following days there was copious diuresis. The urine was light-straw coloured and clear, and did not coagulate on application of heat. At the end of five days the abdomen was quite flaccid in every part. For four months there was no return, at the end of which time the abdomen rapidly increased in size. On April 8th, 1858, she was suddenly seized with intense pain over abdomen, having previously remarked that she felt as on the former occasions. She appeared to be dying, there being great abdominal distension, features sunk, and almost pulseless. The next day she was better, brandy and other restoratives having been given, and in a fortnight the swelling had subsided and she was convalescent. For six weeks the abdomen was flaccid. At the end of this time increase again occurred, and in July, 1858, she was tapped a second time. From July, 1858, to December, 1861, she was tapped thirty-seven times, the total quantity of fluid drawn off amounting to 180 gallons 2 quarts. The fluid taken away was not always alike. In June, 1859, she had another fall, and two days after had severe abdominal pain, and subsequently symptoms of subacute peritonitis for a month. The next tapping was five months later. At the end of 1860 small nodules were felt in the pubic and hypogastric regions, these increased in number and size. She died ten days after the last tapping, on December 2nd, 1861. It was found that a large cyst was adherent to the abdominal parietes, and that there was a large number of other cysts present, varying in size from a hen's egg to that of the fœtal head. It was impossible to see where the cyst had burst into the abdominal cavity. The case presents a point worthy of notice in respect to the fact that for four years the disease appears to have been one of simple cystic disease, there being no remaining hardness after operation of paracentesis. The health of the patient remained good to the last, excepting when the bursting of the cyst gave rise to inflammatory symptoms. She finally died of inflammation of the cysts, not of the peritoneum.

Brown, I. Baker.—*On Ovarian Dropsy; its Nature, Diagnosis, and Treatment—the result of thirty years' experience.* London, Davies, 8vo, pp. 283.

This work contains an account of the author's experience of ovarian dropsy, embodying also an account of forty-two cases in which the operation of ovariotomy has been performed by him. At the end of the volume the cases of ovariotomy are presented in a tabulated form, and a separate chapter is devoted to the analysis of these cases. The successful cases were twenty-two in number, the unsuccessful twenty. The youngest successful case was eighteen years of age, the oldest fifty-seven, while of the unsuccessful cases the youngest was twenty-one and the oldest fifty-five. *Cæteris paribus,* the author believes that a better chance of success is held out to the woman who undergoes the operation before she is thirty. In regard to the state of the health, in nine of the recoveries it was very good, in nine middling or indifferent, in four actually bad. In the unsuccessful cases, in five good health, in nine middling, in six bad or indifferent. Adhesions were present in thirteen of the successful cases, in seventeen of the unsuccessful ones. The pedicle was retained outside of the abdomen in thirty cases, in twelve it was inside. With reference to the number of recoveries, the author states that it is, in proportion to the total number of cases, small, but that this is owing to the fact that several of the cases operated upon occurred many years ago, before the operation itself, or the indications for it, or the diagnosis of the disease, were so well understood as is at present the case. The late experience presents a much higher percentage of recoveries than the former. The author states, in conclusion, that his experience teaches him to be more discriminating in the selection of cases for operation, to reject those where the health is much broken down, where the drain of albuminous matter by repeated tapping has been great, where the disease is of a colloid nature or otherwise materially departs from the true cystic character, and where, from the habits of the patient, other organs have suffered organically to the serious detriment of their functions; in cases of the description indicated operative interference appears entirely contra-indicated.

Brown, I. Baker.—*On Ovariotomy; the mode of its Performance, and the results obtained at the London Surgical Home.* Rep. of Obst. Soc. of London, Lancet, March 22nd, 1862.

The author alludes to the difficulty of the diagnosis of ovarian disease. With reference to the operation itself, adhesions do not usually form an obstacle to the completion of the operation; they are broken down or divided by the knife or écraseur. If the securing of any by ligature be necessary, the author uses silver wire instead of silk or twine, cutting the ends off close and returning into the abdomen. He advises the pedicle to be enclosed in a clamp, this to be placed as near the tumour as possible, and to be kept externally. It can thus be removed in two or three days. If the pedicle be very short, and there is much pain complained of, the clamp is to be removed in a few hours. Among the preliminary measures to be adopted the author attaches importance, in choosing the time for the operation, to the presence of certain atmospheric conditions. When the atmosphere is low and heavy, with an absence or deficiency of ozone, in that condition we usually call depressing, the operation is not to be performed. The cases operated on in the London Surgical Home have been nineteen. Of these, thirteen recovered, six died. The duration of the disease in the successful cases was from four months to six years, in the unsuccessful cases from two to ten years. Other particulars respecting age, &c., are given. In five of the successful cases tapping had been performed from one to three times; four of the unsuccessful cases were tapped from one to six times. The incision made varied from three to seven inches in length. The tumours were multilocular in eleven successful cases and in four fatal cases, unilocular in two successful and in one fatal case. In one (fatal) tumour more or less solid. Adhesions were present in all but four cases. Chloroform was given in all; in two cases it had to be discontinued; in two ether was given at end of operation. The pedicle was retained outside in all but two cases. Latterly the wound had been closed by silver-wire sutures, simply twisted. The causes of death in the six fatal cases were—in two, clearly the operation; in one, that of the solid tumour—there was much old disease found; in one, that of an old drinker, the liver was softened, and there was ascites as well as ovarian tumour; in two the patients died of diarrhœa, in one of these latter there was cancer of the duodenum, not suspected during life.

Wells, T. Spencer.—*Clinical Remarks on Seven Cases of Ovariotomy at the Samaritan Hospital.* Med. Times and Gaz., July 12th and 26th, 1862.

The first case did well. She had been tapped twelve times, her age was 50, and there were extensive adhesions. The second case was that of a single woman, æt. 30, with a multilocular ovarian cyst, filling the whole abdomen up to the false ribs on both sides. Duration, two years. The tumour consisted of an immense number of very small cysts, with very thin walls. The tumour was broken up by the hand, and removed. A portion of adhering colon was drawn out with the tumour, and the adhesions separated by the hand. Pedicle secured by wire-rope; ovarian fluid escaped into the peritoneal cavity, and this was not, contrary to the operator's usual practice, sponged out. The patient did not rally, was sick and restless, and died twenty-nine hours after the operation. There were proofs, post-mortem, of general diffuse peritonitis, many coils of intestine being pasted together by recent lymph, and a pasty layer of the thicker part of the ovarian fluid covered the peritoneum. The author states that he blames himself for thus leaving the fluid; that sponging is certainly better avoided if possible, and that all possible precautions should be taken to prevent ovarian fluid or blood from getting into the peritoneal cavity. Perfectly new, soft, small sponges should be used when there is such escape of fluid or blood, and the whole of such fluid should be very carefully removed. The next case, that of a young woman, æt. 30, who seemed to be recovering, was seized on the twelfth day with tetanus, and died in two days. There were no adhesions. The clamp had come away on the third day, but a live portion of peduncle, larger than a walnut, remained projecting at the lower end of the wound, the slough caused by the pressure of the clamp adhering to it. The peduncle and the stump of the omentum which was with it were then cut away, the author considering that one or other might have something to do with the tetanic symptoms, and a turpentine enema ordered. The pulse went up to 120 in the evening, and tetanic spasms became more frequent in the recti muscles; the teeth were clenched; swallowing brought on spasms. The pulse went up to 160 later in the evening. Warmth, quiet, wine, and chloroform inhalation during the spasms formed, in addition to turpentine enemata, the treatment during this day. The next day the pulse was down to 97, spasms less severe; occasional chloroform inhalations. But at night spasms became more violent; power of swallowing almost lost; pulse 110. Chloroform during night occasionally. Next morning pulse 96; improvement till afternoon, when a violent spasm, with croupy respiration, came on; dusky face and lips, rapid strong pulse, and evident laryngeal obstruction. Larynx was opened; respiration then became tranquil, but gradually ceased, the heart continuing to beat three or four minutes after respiration had ceased. The wound had perfectly united; there was no traction on the pedicle. There was no sign of peritonitis; no altered nerve or vessel could be traced from the neighbourhood of the cicatrix. The next patient, æt. 41, mother of six children, large multilocular cyst of two years' growth, had suffered much for last two months; great emaciation. The pulse had been for some time very rapid, which was considered to be due to inflammation of some of the cysts. There was no cyst large enough to tap, and the septa were broken down by the hand in order to diminish the size and enable the tumour to be drawn out through the incision. The pedicle was broad; after cutting it across, the clamp which was put on cut through it, and bleeding was found to be going on between the clamp and the uterus. A second clamp was put on, but this cut through the pedicle in like manner, and first an artery coming off close to the junction of the Fallopian tube, and next two clusters of veins close to the side of the uterus, had to be tied. The bleeding then ceased. On the tenth day, after going on fairly well, the patient began to look yellow, to lose appetite, and to feel weak. Pulse rose to 130 and 140, and there was a gelatinous discharge from the rectum. There was found a depression of the recto-vaginal septum, leading to the suspicion that there was some serous or purulent collection in the pelvic cellular tissues. Slight improvement next day. On twelfth day more depressed, more yellow; aphthæ on tongue and cheeks; rapid, shallow breathing; and viscid bronchial secretion coughed up with difficulty. Tension of recto-vaginal septum having increased, a trochar was passed into the most projecting part in the vagina, behind the uterus, and eight ounces of a very fetid bloody serum discharged. This was followed by a discharge of grumous pus and immediate relief. Two days afterwards a very free discharge of fetid pus escaped by the side of the remains of the pedicle, and this continued in varying quantity for several days. She finally left the hospital in a state of health.

In describing the symptoms of the disease, the author points out certain peculiarities presented by one of the patients. An anxious, suffering expression; compressed elongated lips; depressed angles of the mouth; widely-open, sharply-defined nostrils; prominent cheek-bones; sunken eye; furrowed forehead—are often seen in subjects of ovarian disease, pointing not only to such a loss of fat as leaves the bones and muscles almost as perceptible as if they had been dissected, but to something more—to the heavy weight the patient has to carry, in a situation impeding respiration and preventing free action of the diaphragm. In the case next related the diagnosis presented several points of great interest, it being considered doubtful whether the tumour present was a semi-solid tumour of the ovary or a fibrous outgrowth from the uterus. By some who had examined the patient it had been considered to be a case of pregnancy in an abnormal position. The tumour was found to be nearly solid; it was broken up, in order to be removed without necessity for enlarging the opening in the abdominal walls, and a quantity of pseudo-colloid matter escaped; the tumour was then drawn out, and the pedicle secured by the clamp. The tumour had dated from a year previous; the tumour was in front of the uterus, and the cervix could be moved independently of the tumour; the tumour itself, as felt from the vagina, was hard and rounded, and offered a sort of ballottement. Before the operation was performed there had occurred some ascitic effusion, and this had rather facilitated the diagnosis. The patient perfectly recovered. The next case alluded to was interesting from the fact that secondary hæmorrhage occurred four hours after the wound had been closed. This was the first time the author had noticed this accident; the patient had been tapped once, when secondary cysts were ascertained to exist; she was pale and emaciated; the larger cyst had some extensive parietal adhesions, easily separated; the narrow pedicle was secured by a piece of wire rope, tightened by an écraseur screw, the pedicle left secured by the wire at the lower angle of the wound. She rallied well, but soon became restless and began to vomit. Three hours after the operation she still remained restless, and forty drops of laudanum were thrown into the rectum. Four hours after the operation she was found bleeding freely from the side of the pedicle. The bleeding point could not be reached by drawing the pedicle out a little, so the wound was reopened, and the bleeding surface tied in three portions, and the bleeding stopped. The patient had fainted, and was at one time supposed to be nearly dead. Hot brandy was poured down her throat, the blood and clots cleared away, and the wound reclosed. She vomited, and soon rallied and was then doing well. In this case, as in the other previously related, when ligatures had to be applied close to the uterus, there was formation of pus subsequently in the broad ligament. There had been rapidity of pulse, tendency to vomit; dusky, jaundiced hue of face; ammoniacal condition of urine. A fulness was felt between the uterus and rectum, causing a projection of the posterior wall of the vagina, into which, after waiting for four days, a trocar was passed, and eight ounces of dark-coloured, fetid fluid evacuated. This patient had been improving ever since. With reference to the mode of securing the pedicle, the author remarks that in most cases since the introduction of the clamp by Mr. Hutchinson he has used it. When the pedicle was long this was always done, but when the pedicle was short the traction on the uterus caused distressing vomiting, and in such cases the stump was left in the abdomen, the ends of the ligature being brought outside. The cases treated in these two ways presented different phenomena, for in the first all went well from the first, while in the second class of cases there was much constitutional disturbance. pointing to poisoning of the blood by the absorption of some portion of the strangulated pedicle. In the cases where the pedicle was very short the clamp was used temporarily until the ligatures could be applied beyond it, and then, if possible, the part which was tied was brought to a level with the skin, and then fixed by a harelip pin. The author had tried the wire-rope écraseur, with the idea of leaving the rope on for a few hours before completely dividing the short pedicle and returning it into the abdomen, but this was not found to answer. The chain écraseur the author has used only once. In this case there was literally no pedicle; the chain was tightened, the tumour removed, but it was impossible to drag the uterus up to the edge of the wound. On slackening the chain, however, no hæmorrhage occurred, and the case did well. The author does not adopt the practice of Dr. Tyler Smith, of cutting the pedicle off close after ligaturing, and returning it into the abdomen. At present he prefers trusting to the clamp when the pedicle is long; and when it is short, either tying the vessels only (not the pedicle) or using the écraseur, or acupressure, or the "wire compress" of Mr. Dixon, of Hull, which is a modification of acupressure. The girl last operated on was the fortieth case of ovariotomy, twenty-four of which had recovered and sixteen died.

WELLS, T. SPENCER.—*Two Cases of Ovariotomy.* Med. Times and Gaz., Sept. 5th, 1862.

Case 1, æt. 20.—Multilocular ovarian cyst; ovariotomy performed; ligature of omental vessels; recovery.

Case 2.—Multilocular ovarian cyst; ovariotomy performed; recovery.

FERGUSSON, Prof.—*Ovariotomy; both Ovaries removed; death in the third week.* Med. Times and Gaz., Oct. 18th, 1862.

The patient was single, her age 19. Both ovaries were found diseased. The stumps of the pedicles were left in the abdomen, and the ends of the ligatures brought out at the wound. The cause of death was diffuse peritonitis and post-peritoneal abscess.

SMITH, Dr. TYLER.—*Four additional Cases of Ovariotomy.* Rep. of Obstetrical Soc. of London, Lancet, July 26th, 1862.

These cases constitute Nos. 9 to 12 of the series operated on. In Case 9 the patient was fifty-nine years of age, unmarried, and had suffered from ovarian tumour for thirty-eight years. She was of immense size. The operation was by the long incision, the bulk of the tumour being solid. Numerous adhesions rendered the removal of the tumour very difficult; the pelvic adhesions were especially firm, and in breaking them down the rectum was slightly wounded. Death from shock six hours afterwards. In Case 10 the patient had suffered upwards of two years, and had been ineffectually tapped. The tumour was large, chiefly solid; there was dropsy of the feet, legs, and abdominal walls; quick pulse, and great emaciation. A moderate-sized incision was made; the adhesions were extensive and firm, the pelvic adhesions were most formidable. There was disease of the peritoneum. The patient died three days after. Case 11.—The patient had suffered upwards of two years. Tapping was attempted, but only a little blood escaped. Tumour large, almost entirely solid. There were adhesions to the small intestines, the omentum, and abdominal walls. Pedicle of large size, and clamp was used to secure it. Recovery took place uninterruptedly, notwithstanding great irritation and sloughing of the large pedicle. Case 12.—Patient, æt. 58, was first tapped, and pressure applied. Two cysts were emptied, but much solid matter still remained. The operation subsequently performed. The tumour was adherent to the omentum and abdominal walls. The pedicle was slight, and after being tied with a silk ligature the pedicle and the ligature were cut off as short as possible and dropped into the abdomen. The wound was closed entirely, and healed by the first intention. Perfect recovery. The latter was the second case in which the author has returned the pedicle and ligature into the abdomen.

Cases of Ovariotomy. Brit. Med. Journ., June 28th, 1862.

Three cases are related. The first was a case of three years' duration, and the patient had been tapped five times after evacuation of several quarts of puriform fluid; the sac was found so adherent that the extraction could not be performed. The patient died the following day. In the second case the operation was a long one, and a good deal of manipulation, tying of vessels, &c., had to be performed. Recovery took place. Two other cases are alluded to, in one of which the tumour proved to be not ovarian, but extra-uterine. It was removed by the écraseur. In the other case an operation by Mr. Minshull (in 1863). In both the patients recovered.

POLLOCK, GEO.—*Abortion after Tapping an Ovarian Cyst; Ovariotomy five months afterwards, when the Uterus was found to contain a second dead Fœtus; fatal result.* Lancet, Sept. 6th, 1862.

The history of the case dated from nine months before, when swelling, beginning on the left side of the abdomen, rapidly progressed. Four months after, she was tapped and aborted. Six weeks ago she was tapped a second time, the distension having again become very considerable. Again it occurred, and ovariotomy was resolved on. The tumour was found to be multilocular, with one large cyst in front. After removing the tumour and tying the pedicle, what was considered to be another cyst belonging to the other ovary appeared. This was tapped, and found to be the gravid uterus, containing a dead fœtus. The wound in the uterus was closed with silver sutures, and the fœtus left. In the evening the patient aborted, and died the next evening. It was considered as probable that there was at the time of the first abortion a second fœtus in the uterus, not expelled at that time.

PRIESTLEY, Dr., and MITCHELL HENRY.—*Case of Multilocular Ovarian Tumour; Ovariotomy; Death; Autopsy; Clinical remarks.* Med. Times and Gaz., Aug. 2nd, 1862.

The patient was single, æt. 21. The tumour of a year's duration. She had been tapped a month before. Death took place eighteen hours after the operation. There was no general peritonitis; the cavity of the abdomen contained about fifty ounces of thick, bloody fluid, in which were no clots or pus. The omentum was found torn into shreds, and the ends of its vessels surrounded by small blood-clots. The fatal issue was attributed to the shock of the operation and to the internal hæmorrhage. The heart and liver were fatty. During the operation some of the fluid escaped from one of the cysts.

TEALE, P.—*Two cases of Ovarian Dropsy in which Ovariotomy was performed.* Med. Times and Gaz., March 29th, 1862.

In one case ovariotomy was performed on a woman who had been the subject of ovarian dropsy for two years. There were no adhesions; the pedicle was retained externally. Tumour unilocular. Recovery. In the second case the disease had lasted about a year. There were anterior adhesions of firm character, and slighter ones posteriorly. The recent adhesions were separated by the hand, the old ones by scissors. Pedicle was retained externally. Death took place on the fifth day, from peritonitis. The tumour was mainly composed of one large sac; at its base there was a solid mass as large as an orange, which, on being cut into, was found to be made up of a number of sacculi, filled with a gelatinous material, "spurious colloid." Both patients were hospital patients. Both were treated by nutritive enemata and opium.

DEWES, Dr.—*Multilocular Ovarian Tumour; Ovariotomy; Removal of a large portion of Omentum; Recovery.* Med. Times and Gaz., June 14th, 1862.

The patient, æt. 23, was delivered of a child in May, 1861, and in January, 1862, considered herself (falsely) again pregnant three months. By March 15th the abdomen had become so distended that it was necessary to perform paracentesis. A considerable tumour was still left. Mr. John Clay, of Birmingham, considered the case to be one of multilocular ovarian tumour, springing from the right ovary, one sac of which had become rapidly distended, there being several smaller ones, also containing fluid, and one portion of the tumour was of solid consistence. The presence of adhesions it was considered impossible to determine. Mr. Clay performed ovariotomy, tapping the cysts before dragging them out of the abdomen. The tumour was universally adherent, the adhesions being very strong at the right side. They were separated by the hand. A large portion of omentum was spread out over the front of the tumour, adherent to it and to the parietes, and in extracting the tumour this was torn, and bled profusely in several places. The omentum was seized between the blades of a sort of clam

Mr. Clay had provided for dividing adhesions, and he separated the wounded portion by the actual cautery. The piece removed was nine inches long and seven wide. A clamp was used to secure the pedicle, silver sutures to close the wound. A tablespoonful of champagne was given every hour, and ice to suck. Injections of beef tea, brandy, and laudanum, every four hours; catheter used every four hours. No solid food for four days. She recovered without a bad symptom.

CLAY, JOHN.—*Adhesion Clam, a new instrument for aiding the removal of Ovarian Tumours.* Med. Times and Gaz., June 21st, 1862.

This instrument is devised for the purpose of more readily separating the adhesions encountered in ovariotomy operations. It consists of two blades, the one fitting on the other, and tightly grasping the part to be divided. A cauterizing iron forms part of the apparatus; this latter is used hot or cold; when cold, it cuts through the membrane to be divided by a bruising process like that of the écraseur, without producing tension of the parts. On being heated it divides the parts in another manner. One great feature in the use of the instrument is the great compression which can be used previously to the division of the stricture, and this, with the use of the cautery or the friction instrument, is sufficient to prevent hæmorrhage. In a case operated on (see Dewes, Dr., p. 392), the number of bleeding vessels in the torn omentum, and the extent of the injury would have necessitated the use of three ligatures to the omentum *en masse* to have arrested the hæmorrhage.

DISEASES OF VAGINA, BLADDER, AND EXTERNAL GENERATIVE ORGANS.

M'CLINTOCK, Dr.—*Tumours of the Labia, Clitoris, and Vagina.* Dub. Quart., Feb., 1862, p. 209.

Drawings and concise histories are given of a series of cases of tumours of the labia, clitoris, and vagina. There are four cases of non-malignant disease, two of malignant disease, and four cases of tumour growing from the vagina.

MEIGS, Prof.—*Inversion of the Hairs of the Labia Pudendi.* Amer. Journ. Med. Sc., April, 1862, p. 328.

In two cases related distressing and obstinate pruritus was associated with the growth of stiff, long hairs at the margins of the labia. Eradication of these was followed by a cure.

BROWN, I. BAKER.—*On Vesico-vaginal Fistula.* Lancet, April 19th and 26th, 1862.

Seven cases are here related. In one there was recto- and vesico-vaginal fistula, and a novel operation was performed. The vaginal aperture was closed, and the urine, catamenial fluid, and fæces, allowed to pass per rectum. This was almost completely effected after great difficulty, owing to the resistance of the patient and her objection to be relieved.

BROWN, I. BAKER.—*Retained Menses of two years' duration, caused by Atresia Vagina and treated by Puncture of the Uterus per Rectum.* Report of Obstetrical Society of London, Lancet, 1862.

The age of the patient was 15, the uterus was felt to be the size of a four months' gravid organ. She had suffered great pain at every monthly period for two years. An unsuccessful attempt had been made to form a vagina. A curved trocar was introduced into the tumour from the rectum, and treacly-looking fluid escaped then and for two or three days afterwards. It was kept in for a fortnight. A month later she menstruated per rectum, and shortly afterwards returned home.

HARLEY, Prof.—*A case in which Air was expelled from the Vagina.* Rep. of Obst. Society of Lond., Lancet, May 2nd, 1862.

In the case related air was expelled from the vagina with a loud noise. It began about eighteen months ago, and was renewed at each catamenial period since. No communication was found between the vagina and rectum. To ascertain the source of the air, a catheter was passed into the uterus, to which a long india-rubber tube was attached, with a stop-cock at the other end, the stop-cock being placed in a tumbler of water. No air escaped from the tube. On placing the open end of the catheter in the vagina, air escaped. Afterwards the water was found to be sucked up by the vagina; the abdominal muscles were found in action at this time, and contributed to the result. The vagina thus sucked up and expelled the air by spasmodic action.

PREGNANCY AND CHILD-BED.

MISCELLANEOUS.

BROWN, Dr. C. BLAKELEY.—*Scarlatina in the Puerperal State.* Brit. Med. Journ., Feb. 8th, 1862.

The author relates particulars of nine cases of scarlatina in the puerperal state which were treated in the Queen Charlotte's Lying-in Hospital; they all recovered. Bark and ammonia were given early, beef tea, wine, and brandy, were carefully and abundantly administered, and in five opium was given with marked benefit.

BARNES, Dr. ROBERT.—*On the Broncho-pneumonia of Lying-in Women.* Rep. of Obstet. Soc., Lancet, March 15th, 1862.

The author states that he has observed a peculiar form of broncho-pneumonia in lying-in women. This peculiar disease is, he believes, one of the manifestations of puerperal fever, and it is the effect of the irritation of the bronchial mucous membrane by the septic or other offending matter circulating with the blood, analogous to the diarrhœa often observed under such circumstances. This form of broncho-pneumonia was distinct from that immediately resulting from capillary embolia.

GUSSEROW.—*Contribution to the Study of Osteomalacia.* Mon. f. Geb., July, 1862.

It appears from the researches of Litzmann, that, as had been previously supposed, osteomalacia is a disease which stands in an intimate relationship to the puerperal condition, few cases being known in which girls or men are affected. The diminution of the calcareous element in the bones is the anatomical feature. The debilitating influence of repeated pregnancies appears to be the cause of this diminution. It has been an object to determine how and in what manner the calcareous matter in question disappears; by what road, in fact, it escapes from the body. There is no proof that it is deposited, as supposed by some, in the lungs or bronchial or mesenteric glands. It has been shown that in many cases the urine is overcharged with calcareous salts; Proesch found the blood richer than usual in this constituent. There are no data as to the presence of alterations in the constitution of the lacteal secretion. The author having understood from Dr. Winckel, of Gummersbach, where the disease is very prevalent, that the custom there prevails with the mothers of the poor of suckling their infants for an excessively long period, made further inquiries into the fact. He has ascertained that in one of Winckel's cases, the mother suckled her first child one year and four months, the second a year, and that during the second pregnancy the disease began. In a second, who had had five children, suckled each one year and eight months—indeed, after the first pregnancy she gave suck until the movements of the second child were felt—the disease began in the second pregnancy. In Case 3 lactation was continued in the first pregnancy one year and a quarter, in the second an equally long time, and during the second pregnancy the disease commenced. The third, the sixth, the seventh child, were each kept to the breast for an equally long time. The eighth was weaned at eleven months on account of the severity of the arthritic symptoms. In Case 4 lactation was continued three quarters of a year, during which time the disease commenced. After weaning, the pains disappeared. A second child was weaned, for a similar reason, after twenty-six weeks' lactation. In Case 5 lactation was continued in the case of five children for a period of from one year and a half to two years; the disease began in the sixth pregnancy, after she had given suck to twins for a quarter of a year. In Case 6, first child suckled for a year and a half, the second two years, the fourth two to three years, in which latter period the disease began. The fifth child was suckled one year and eight months. In Case 7 the third child was suckled until the fourth pregnancy, and so with the next; the disease then began. In Case 8 the first child was kept at the breast for three years, when a second pregnancy supervened. The second child was suckled for two and a half years, and during this period the disease began; spite of this, the mother suckled the third child for two years. In Case 9 a woman, who had suckled three children each for two years, became affected in the latter of the three periods in question. Kilian relates a case where lactation had been continued for two years. The author had procured two samples of milk from nurses the subjects of osteomalacia, under Winckel's notice, and compared them with specimens taken from six healthy nurses. The natural variations in the quantity of the calcareous element in human milk may be considerable, and are not allowed for, of course, in the results here given, which are nevertheless the best that the opportunity afforded allowed of. 41·20 grammes of healthy milk being evaporated and treated with sulphuric acid, the calcareous matters were obtained as sulphates. The result was CaO ·0045 gramme, or ·0109 per cent. Boecker, of Bonn, had in previous analyses given a somewhat less average figure for this constituent. One specimen from Gummersbach was obtained from a woman with this history:—Age 37; suckled her first child (born in 1847) one year and a half; second and third child, born in 1849 and 1852 respectively, each suckled for one year and a quarter; the fourth and fifth children were dead (1853 and 1855). In the sixth labour, after turning, the head was extracted with difficulty, owing to the disease having commenced; the seventh labour was protracted eleven hours; the child was suckled from May 10th, 1860, to August, 1861, at which time the milk was procured. The patient is a marked instance of the disease. The analysis gave, as a result, CaO ·0325 per cent. The second specimen of milk was from a patient whose case has been related by Breisky, an equally well-marked case of osteomalacia. She had had five pregnancies, two dead and three living children born, each of which latter had been suckled quite two years. The disease dates from the first lactation. In August, 1861, she was still suckling a child extracted by the Cæsarean section in August, 1860. The analysis of the milk gave CaO ·0223 gramme per cent. It thus appears that there is a considerable increase in the calcareous constituents of the milk in osteomalacia, the quantity being double that normally present in the first and more than this in the second case. Still more striking are the results if we accept the results of Boecker's analysis of ordinary milk as the standard. The inference is that women the subjects of osteomalacia should not be allowed to suckle on subsequent occasions. It would appear, from data obtainable from other sources, that the quantity of salts increases in the milk as lactation proceeds, and that it is greater at the end than at the commencement of lactation. In one of the above patients the urine was examined, but no increase in its calcareous constituents found to be present. The author concludes with the observation that there may be marked instances of the disease when there has been no "child-bed," and when the disappearance of the calcareous constituents of the bones must be otherwise accounted for.

BARNES, Dr. ROBERT.—*A case of Osteomalacia.* Med.-Chir. Trans., vol. xlv, p. 63.

The patient was forty years of age; had been married for ten years, but had not been pregnant. Her original height was five feet eight inches, and she now measured only four feet eight inches. She was racked by pains in the bones; walking very painful, easier sitting, getting up very painful. After some months' treatment with zinc, iron, &c., cod-liver oil was given in combination with dilute hydrochloric acid. After taking this medicine in combination with other remedial measures, she became able again to attend to her domestic duties. Subsequently the skeleton had been minutely examined. The physical appearance of the patient was remarkable. Long, thin, straight limbs, set on a squat, dwarfed, distorted trunk. The head, clavicle, scapulæ, arms and legs natural;

cervical vertebræ little affected. From upper dorsal vertebræ downwards whole spinal column greatly distorted. An immense gibbosity between shoulders; ribs much compressed; the chest fallen towards pelvis, so that the lower ribs had sunk below and inside the crests of the ilia. Pelvis centripetally compressed on all sides; acetabula squeezed inwards close to sacral promontory, carrying horizontal rami of pubis backwards, and throwing out symphysis into the beak-like form characteristic of mollities ossium; outlet of pelvis so narrowed that with difficulty can two fingers be introduced. The thoracic, abdominal, and pelvic cavities notably diminished in size; the bodies of the vertebræ evidently much reduced in bulk; hence the falling down of the trunk. The urine was particularly examined while the disease was progressing. On one occasion the quantity of urea per cent. was found to be 26·80 (healthy urine 44·50), uric acid 1·10 (healthy 1·50), extractive 39·01 (healthy 24·20), alkaline chlorides 11·60 (healthy 10·25), alkaline sulphates 8·34 (healthy 12·35), alkaline phosphates 7·83 (healthy 5·40), earthy phosphates 5·32 (healthy 1·80) ('Analysis of Dr. Letheby'). At other times quantity of urea much larger. In two other specimens the solid parts were respectively—urea, 51·7 and 53·8; uric acid, sugar, and extractives, 25·1 and 18·8; alkaline chlorides, sulphates, and phosphates, 21·2 and 24·6; earthy phosphates, 2·0 and 2·8 per cent.; the specific gravities were 1024 and 1014, and the solid matters per 1000 were 38·4 and 21·4 respectively. The quantity was three and a half pints in twenty-four hours. Generally it was found that during the active stage of the disease there was a large excess of urea, of alkaline and earthy phosphates, and of extractive, and almost constantly there were small quantities of sugar. In a specimen examined after arrest of the disease the specific gravity was 1014. 1000 grains evaporated left 24·5 of solid matter. The solid matter contained 7·0 saline, and the latter 3·2 of phosphates; urea was 17 per 1000.

The author observes that the establishment of a form or stage of the disease characterised by the preservation of a yielding condition of the pelvic bones is one of very great interest in relation to the question of the necessity for the Cæsarean operation, and shows, by quotations from several sources, that in certain cases of osteomalacia, where contraction was so great that there was apparent necessity for the above operation, the pelvic bones gave way to pressure of various kinds from within, and the passage was thereby rendered sufficiently wide for the delivery. The author conjectures that the dilatability of the osteomalacic pelvis may be increased during pregnancy, and especially about the period of labour. In the case above related there was no pregnancy. He contests the opinion of Kilian, that the disease is not curable; and as regards Kilian's definition of the disease, it is, he considers, excessively rigorous. Kilian limits it to a disease "which proceeds from the pelvis, or which is, at least, in early succession concentrated upon this part." Finally, the benefit derived by the patient in the case related is attributed to the cod-liver oil.

PAJOT.—*On the Lochia.* Gaz. des Hôp., Feb. 25th, 1862.

The author gives the results of some recent observations on the nature of the lochial secretion. Specimens were taken from women during the latter part of labour, two hours after labour, and seven or eight hours after labour. These specimens were microscopically examined by Robin, who, without knowing the source of the fluid examined, pronounced that the first specimen contained mucus, blood-globules, and some pus-corpuscles. In the second specimen the same elements were discovered. In the third specimen the pus-globules were still more numerous. Other observers, Tarnier and Vulpian, had not found pus in the lochia, but the author considers that the different result is explainable by the presence of puerperal fever in the wards at the time his own researches were made. Is it not possible, the author asks, that under favorable conditions the uterine wound cicatrizes rapidly by the first intention and without suppurating, while under less favorable conditions a suppuration extending over a longer or shorter time occurs? Towards the fifth or sixth day the sanguinolent tinge of the lochial discharge disappears. It may return again for a short time, owing to imprudence in getting up or other cause. The duration of the discharge is variable, according to the constitution of the patient and other causes. As a rule, the discharge ceases on the twentieth day. In women who do not suckle, menstruation appears again at the end of six weeks, sometimes later. Fetidity of the lochial discharge is not always due to retention and putrefaction of a clot. It may occur irrespective of this, and may indicate danger of an epidemic affection.

PAJOT.—*On the Atrophy of the Uterus after Labour.* Gaz. des Hôp., March 11th, 1862.

The following are the results of some of the author's observations. Just after labour the uterus reaches to the umbilicus; in 100 cases, taken at random, the uterus was still above the pubis as long as seven days after labour. On the seventh day in one case only was the uterus below the pubis; on the eighth day it was below that point in six cases, on the ninth in four, on the tenth in four. Subsequently it was difficult to follow the cases as they left the hospital. On the eleventh day in one case the uterus was below the symphysis, on the twelfth in one case also. In more than eighty cases, followed carefully, and who were not ill, seventeen only had the uterus below the symphysis at the twelfth day. In women who had not been ill the uterus was found five centimètres above the pubis at the twelfth day, in a second six centimètres, in a third case at eight centimètres. Uterine hæmorrhage appears to be an obstacle to the retreat of the organ, for in two cases of this kind the uterus at the sixth day was still seven centimètres above the pubis. At term the uterus consists of three parts—fibre-cells, fatty granulations, and amorphous matter. Each of these undergoes resorption. In about six weeks the uterus returns very nearly, but not quite, to its original size.

PAJOT.—*On Milk-fever.* Gaz. des Hôp., March 11th, 1862.

Is there such a thing as milk-fever? is the first question to be determined. There is probably truth in both the affirmative and the negative answer. In women of debilitated habits, and dwelling in towns, there may be no milk-fever; in robust women, living in the country, it will be present. By the word fever, as now used, must be understood elevation of the pulse fifteen to twenty beats, a little headache, slight shiverings, a slightly white, furred tongue, hardness and tumefaction of the breasts. The difficulty of distinguishing this slight fever from the more severe disease is occasionally not inconsiderable. The pulse is the guide. As a general rule, we may say that if the pulse is above 100 in a woman delivered two or three days previously, there is something more than milk-fever to cause it. This is a rule to which an exception will be met only once in a thousand cases. The morbid conditions should be sought for in the following order—the hypogastric region, the genital organs, the chest, the articulations, the skin. These parts must be successively investigated, but in some cases the cause of the elevation of the pulse escapes us. In some cases it is the precursor of a cutaneous eruption. In most women the milk-fever appears in from forty-eight to sixty-two hours after delivery, not generally before, sometimes on the fourth, fifth, and even sixth day. The milk-fever lasts only a day.

STADFELT.—*On the Etiology of Hydronephrosis.* Hosp. Tidend. Copenhagen, June, 1861. Mon. f. Geb., July, 1862.

Pressure on the ureters is ordinarily the cause of hydronephrosis, this pressure arising from carcinoma of the uterus, fibroid tumour of the uterus, ovarian cysts. The other causes are inflammatory processes in the ureters, calculi or cancer in the ureters. Cases are related in illustration of this subject. Case 1.—An ovarian tumour was present in a woman, æt. 22, who had had repeated attacks of peritonitis; the size of the tumour was that of the head of a seven to eight months' fœtus, and it was fixed by adhesions in the pelvis. There was present an advanced stage of dropsy of the right kidney; the left was enlarged. Case 2.—That of a woman who died six weeks after labour; the glands in the lumbar region enlarged; the pelves of the kidneys enlarged; right ureter very small, but permeable, in the pelvis; enlarged above: left kidney and ureter normal. The glandular enlargement was above the strictured portion of the ureter. The right crural vein was filled with thrombi and puriform matter. Case 3.—Death after labour in a forceps case. The uterus had been inclined to the right side. Infiltration of cellular tissue around the right ureter in pelvis; dilatation of ureter above this point; pelvis of right kidney much dilated. Left ureter dilated above the left common iliac artery; left kidney normal. The ureter may, it is evident, be pressed upon by the uterus, when the latter is inclined to one side, at the brim of the pelvis. As in Case 4, though the labour was long, the head remained some time at the pelvic inlet. Death seventeen days after delivery. Laceration of the posterior uterine lip, 1″ long; this torn part was adherent to the anterior part of the rectum; uterus dragged to right and posterior side of the pelvis. The broad ligament, the Fallopian tube, and ovary of that side, formed a roll-shaped tumour, extending into the right renal region. Right spermatic artery thickened, its lower part filled with a thrombus. The right ureter, from the right common iliac artery to the right angle of the uterus, much dilated, thickened, and ecchymosed; the pelvis of the kidney enlarged to size of a duck's egg. Left kidney and ureter normal. In reference to the frequency of dilatation of the ureter in lying-in women, irrespective of lateral position or fixing of the uterus, the author found that in sixteen cases it occurred nine times; it almost always begins where the uterus touches the common iliac artery.

Klein.—*On the Treatment of Sore Nipples.* Deut. Klin., 1861, No. 39.

In cases where the nipples are liable to crack, and in primiparæ, the author successfully employs the following treatment. During the last three months of pregnancy the nipples are washed, and tincture of galls applied. The nipples are covered at the same time with shields.

PUERPERAL FEVER; PUERPERAL PERITONITIS; PHLEGMASIA DOLENS; PUERPERAL THROMBOSES; PELVIC ABSCESS, &C.

Simpson, Prof.—*Recovery from Puerperal Embolism, and Sudden Death in a subsequent Pregnancy.* Ed. Med. Journ., May, 1862.

The patient had, five years before, when in the eighth month of pregnancy, fallen suddenly down, and was found stupid and senseless, with hemiplegia of the whole of the right side. The left carotid artery was beating more strongly than the right. Embolism was suspected. Examination of the heart revealed that the mitral orifice was a little contracted, and it seemed probable that a vegetation had got loosened and conveyed to the head. The patient then recovered so far that she went her full time, was able to move about, though walking lamely, with impaired speech and imperfect use of right hand. Since that she had borne one or two children. Again pregnant, in the seventh month she became unwell; the left hand cold; breathing became laborious; coldness and collapse set in; the countenance had an anxious, alarmed expression; the skin cold and strangely discoloured, partly livid, from stasis of blood, and partly yellow, perhaps from the decomposition and diffusion of some of the blood-colouring matter. Pulse very small; heart's action tumultuous. Two hours later she died. There was a cavity of considerable size to the external side of the left ventricle, involving the lower and anterior portion of the corpus striatum, lined by a very vascular, serous-looking membrane. It was elongated, and the opposite sides in contact. No obstruction in cerebral vessels. The author considers that the original embolus had disappeared, owing to the time (five years) which had elapsed; the place of the portion of brain destroyed by the temporary presence of the embolus was represented by the cystic cavity described. The mitral orifice was very contracted, and at the probable source of the embolus hardly admitted the tip of the forefinger, and on the free surfaces of the valves were two warty-like projections, overlaid by fresh coagula. There were firm clots behind the valves. The pulmonary artery and its branches were found quite free. The lungs were slightly œdematous; both, particularly the left, presented in a slight degree the brown induration described by Virchow.

Barnes, Dr. Robert.—*On the Thrombosis and Embolia of Lying-in Women.* Report of Obst. Soc., Lancet, Feb. 22nd, 1862.

The author relates a case in which the patient was seized with febrile symptoms and apparent inflammation of the uterus a few days after labour, and on the fourteenth day with sudden severe pain in the right leg, followed by loss of pulsation of the arteries of the leg, swelling, gangrene, and death. The author enters on an analysis of cases previously recorded by other observers. He considers that there are two classes of cases of this disease in the systemic circulation; in one rheumatism precedes the accident, there being probably a washing away of vegetations from the cardiac valves into the arteries; in the other there is coagulation of blood in the left heart, and the obstruction occurs in consequence of washing of portions of the heart-clot into the arteries. The embolism of the pulmonary circulation results from blood-clots from the systemic veins passing into the right heart and pulmonary circulation.

Cowan, Dr.—*Puerperal Pulmonary Embolism.* Ed. Med. Journ., Nov., 1862.

The patient, æt. 22, a primipara, died very suddenly eighteen days after an easy, normal labour. After sitting by the fireside for some time, expressing a feeling of fatigue, she said she would go to bed. On endeavouring to get into bed she uttered a smothered cry, and fell to the ground, neither speaking nor moving after. The brain was much injected, but healthy; the left side of the heart empty and firmly contracted; the right greatly distended with fluid blood. Three ounces of fluid in the pericardium. Lungs both highly congested; a fibrinous clot, about an inch and three quarters in length, was found in the pulmonary artery, extending into its left branch. The clot completely occupied the calibre of the vessel, and required to be removed by the fingers. It is not stated what was the condition of the other veins of the body.

Hjort.—*On the Causes of Puerperal Fever in Lying-in Hospitals,* Forhandl. ved de Skand. Natursforsk., 8, Möde i Kjöbenhavn, p. 878. Schmidt, 113, p. 322.

The observations of the author refer to the lying-in hospitals in Gothenburg, the annual deliveries in which amounted to about 200, but latterly to about 300. During the last three years, out of 700 cases, the mortality amounted to eleven from puerperal fever, in five other cases death took place after leaving the hospital from causes connected with parturition. During the three years in question, there were six more or less severe epidemics of puerperal fever. In all the epidemics, with one exception, it was traceable to a traumatic origin. In one instance an infant was the means of conveying the disease to other patients. When women have arrived at the end of the first week perfectly well they rarely become afterwards affected with puerperal fever. The presence of erysipelas may give rise to puerperal fever epidemics. The disease may be conveyed by means of a healthy individual, and may thus affect others; a case is related to prove this. Every patient attacked with puerperal fever should be at once placed in a separate chamber, and be subsequently attended by a special nurse, and the same precaution should be used in the event of any patient becoming attacked with any acute disease.

MITCHELL, J. T.—*On Puerperal Peritonitis, its Nature and Treatment.* Rep. of Obst. Soc. of London, Lancet, May 3rd, 1862.

The paper contains the result of the author's practice, extending over nearly forty years, and in which twenty-seven cases of puerperal peritonitis had occurred. Of these, twenty-three had recovered. All the cases were isolated, being attended at the patient's residence. The remedies employed had been bleeding to a free extent once, in others even twice and the administration of opium in large doses. His practice had been to see the patient very early after the shivering fit had occurred. He then bled to approaching syncope, gave large doses of opium, following these measures by extensively fomenting the abdomen with flannel cloths wrung out of boiling water, and sprinkled with turpentine; enjoining perfect rest, quiet, recumbent position, and preventing action of bowels for four or five days.

KEHRER.—*On the Treatment of Puerperal Fever.* Mon. f. Geb., Sept., 1861, p. 209.

The treatment of puerperal fever will necessarily be fruitless and ineffectual if it be conducted on the "inflammatory" theory, and so long as the presence of an essential disease, of an acute poisoning of the blood, is disregarded. In a few cases we meet with a sporadic disease, attacking isolated individuals, resulting from mechanical injuries, &c., during parturition; in the large majority of cases occurring in lying-in hospitals we have to do with an affection the essence of which is a blood poisoning. In some cases the phenomena present are the results of secondary inflammatory action. The author agrees with Semmelweis in his views on the etiology and prophylaxis of puerperal fever. Lastly, a short account is given of an epidemic of puerperal fever in Giessen. Morphia, in doses of one eighth of a grain twice or four times in the twenty-four hours, was administered in most of the cases; and frequently, alternately with each other throughout the day and night, two mixtures —the one containing camphor, liquor ammoniæ acetatis, and gum; the other, quinine (dose, one grain). This treatment was continued until the symptoms abated, one or two days, when improvement was shown by the increase in the secretions of the skin, the kidneys, the breasts, and by the increased lochial discharge.

KÖNIG.—*The Perimetritic Exudations in the Pelvis in Lying-in Women.* Arch. f. Heilk., 1862, No. 6, p. 481.

The cellular tissue between the folds of the broad ligament of the uterus is the primary seat of perimetritic exudations. From this point exudations extend in different directions, and the tendency to these is favoured by the very loose state of the cellular tissue in puerperal women. The author, struck with the rarity with which exudations were found in the pelvis proper, made experiments with the view of ascertaining what was the path which these exudations most usually follow. The experiments were made on bodies of women dying after labour, by injecting air or water into the cellular tissue under the broad ligament. The following are the chief results:—1. An exudation into the cellular tissue of the broad ligament in the neighbourhood of the tubes and ovary travels primarily along the course of the psoas and iliacus muscles, and then sinks into the pelvis proper. 2. Exudations starting from the antero-lateral part of the cellular tissue lower down, where the body of the uterus joins the cervix of the organ, fill, first the cellular tissue of the true pelvis laterally to the uterus and bladder, and pass then with the round ligament towards Poupart's ligament. Thence they extend to the iliac fossa externally and backwards. 3. If the starting-point be the posterior part of the base of the lateral ligament, the posterior and lateral parts of the pelvis are first filled, that is to say, the Douglas fossa, and they follow then the course of those under head No. 1.

The symptoms which characterise the presence of effusions in the pelvis, &c., are next considered. Local pain is hardly ever absent. The seat of the pain is of diagnostic importance; thus, a fixed pain in the region of the broad ligament indicates commencement of inflammation. Puerperal exudations frequently give rise to pains of neuralgic character, due to pressure of the effused products on nerves passing through the pelvis; this latter may be an intense pain, or simply an altered sensation—coldness, warmth, &c. The external cutaneous nerve of the thigh is especially the one affected, at other times the crural nerve chiefly; or the pain may be solely of sciatic character. Painful sensations deep down in the pelvis are not common. There is one symptom which is almost constantly present, viz., flexion of the thigh on the trunk. The effusion, being situated under the fascia covering the psoas muscle, gives rise to pain on extension of the limb. This pain, from which the patient seeks relief by flexing the limb, is often mistaken for pain in the hip-joint. Such flexion of the thigh is alone almost diagnostic of presence of exudation in the pelvis. Further flexion of the limb is not painful, but attempts at extension exceedingly so. If the swelling extends to and around the hip-joint, the diagnosis may be difficult; pressure of the leg upwards in the vertical direction is usually painful when the joint itself is affected. The vessels of the lower extremities are sometimes affected by the pressure within the pelvis, this giving rise to œdema of the ankles and labia. Anomalies as regards defecation are generally present. A peculiar condition often present is fixation of the intestine by the effused products, whereby the contraction of the tube is interfered with. Micturition is often rendered difficult or otherwise altered; an intense degree of vesical catarrh is often present. Vaginal catarrh, also is frequently observed; this it is important to distinguish from rupture of pelvic abscess into the vagina. In almost all cases the results of palpation over the abdomen give important diagnostic information. The presence of a hard, resistent swelling, extending, on an average, half the breadth of the hand above Poupart's ligament on one or other side; presence of fluctuation when the abscess is of larger size: presence of depressed, softer, painful spots over the surface of the tumour—such are the more characteristic signs of the tumour due to pelvic abscess. There is dulness on percussion when the abscess rises high enough; otherwise, the intestines intervening, the percussion sound is clear. Vaginal examination gives results not always conclusive, much depending on the position of the tumour; fluctuation is seldom to be detected until a late stage of the affection. Sometimes the rectal examination shows, in addition to other signs, that the bowel is pushed on one side. With respect to the general symptoms, they present themselves under three heads—the fever, the accompanying gastric symptoms, and the emaciation. Rigors of intense character are rarely observed; frequency of pulse, with elevation of temperature in the evening, especially when pus is forming, is almost always observed.

Loss of appetite, vomiting, nausea, &c., are seldom absent. The symptoms of all kinds are liable to great variation, but when a patient, shortly after lying-in, is the subject of marked dyspeptic symptoms, of emaciation, pains in the abdomen and lower extremities, especially when there is flexion of the thighs, these symptoms should lead to a careful examination of the pelvis. During the first four weeks after delivery pelvic exudations most frequently commence, but the commencement may be considerably later than this: the duration of the disease is dependent on the mode of determination. Those cases come to an end most quickly in which there is a free and early opening for the evacuation of the pus into the bladder or rectum. When fistulous openings form, the duration may be very considerable. The abscess has the greatest tendency to open into the organ in the neighbourhood of which it originated. Perforation of the bladder and rectum are tolerably frequent terminations. The evacuation into the intestine is the most frequent of all. The uterus is rarely perforated, but the vagina frequently, and this latter is as favorable as the opening of the abscess into the intestine, which latter Dupuytren considered the best. Other outlets for the passage of the pus from the pelvis are sometimes formed by one of the three following paths—by the side of the vessels, by the side of the muscles, and at the situation of the external cutaneous nerve. The abscess may open also in the lumbar region or through the ischiatic notch in the gluteal region. It is very rare that the abscess opens in the perineal region, and the bursting of the abscess into the peritoneal cavity is fortunately very rare. In reference to the diagnosis, it is sometimes difficult, when there is considerable swelling about the hip-joint, with flexion of the limb and considerable pain, to say that the hip-joint itself is not affected. Again, an abscess of the hip-joint may open into the pelvis, and give rise to an error of diagnosis of the opposite kind. If the case be under observation from an early period its nature will be more clear. It is a matter of universal experience that the condition of the patient undergoes a marked amelioration when the abscess has opened. When the opening is free the abscess rapidly disappears. When there is a sinuous, fistulous passage, it is not so, and the patient may die exhausted. So also, when the opening of the abscess is postponed for a long time, serious results are very apt to ensue. The author has not observed that sterility necessarily follows pelvic abscess. He considers that, practically, the distinction between cases in which the exudation occurs above and those in which it occurs beneath the iliac fascia is unimportant. The most important thing to ascertain is the position at which the affection commenced. Careful examination will in many cases give the required information. With simple neuralgia, with fæcal tumours, pelvic abscess should not be confounded. In one case an ovarian cyst, which rapidly increased in size after labour, gave rise to some uncertainty. As regards the character of the tumour, it may resemble that present in retro-uterine hæmatocele; but the history of the case, the association of the latter with disordered menstruation, and not with the puerperal state, would distinguish between the two. It is sometimes difficult to exclude intra-peritoneal effusion from the consideration. When the effusion is intra-peritoneal there is rarely at the outset the peculiar hardness present in the other class of cases; on the contrary, the tumour is at the commencement large and soft, and at a later period harder. In the extra-peritoneal class of cases the reverse is the case.

In reference to the treatment of pelvic abscess, the author expresses a very strong disapprobation of all lowering measures, such as bleeding, application of leeches, administration of mercury, &c. The subjects of this affection are generally in a state of anæmia, and the remedial measures just alluded to can but tend to increase this. Of the patients submitted to such treatment, and who have recovered, it may be said that they have recovered not from, but in spite of, the treatment. The application of cold might be attended with benefit, if it were practicable to apply it easily. Administration of suitable diet and attention to the condition of the body generally constitute the best treatment; with easily digested, nourishing food, gentle aperients, narcotics to relieve pain and procure sleep. To favour absorption, iodide of potassium or iodide of iron, in small doses, may sometimes be indicated, and for a like purpose warm or slightly cold applications, according to the sensations of the patient, these latter being the best guide. Opium or morphia are to be given to relieve pain; a chloroform liniment is very useful also for local application. Small doses of wine best improve the appetite. With reference to interference with the evacuation of the pus, this is a point about which some circumspection must be exercised. When the symptoms are not very severe, it is best to wait until a clearly fluctuating point is detected. But when this is not the case, when there is considerable swelling, together with contraction of the thigh and general symptoms of formation of pus, these are reasons for acting at once. It is then best to seek for a small, circumscribed, soft, painful spot on the surface of the swelling, and there to operate. But if such a point be not discoverable, if the pain and swelling are great, and the patient failing in strength, it is recommended that an opening be made near the lower extreme limit of the peritoneum, just about Poupart's ligament. Two fingers' breadth above the ligament, and about half an inch external to the sheath of the crural vessels, is the best point to select. The method of operating recommended is the incision in preference to the use of the trochar. When the external incision is made, the forceps and probe are to be used in penetrating the different layers which may be encountered. An elastic catheter is sometimes useful to prevent the wound from closing again. It is necessary subsequently to maintain the strength of the patient by suitable diet.

MACKENZIE, Dr.—*The Pathology and Treatment of Phlegmasia Dolens, as deduced from Clinical and Physiological Researches, being the Lettsomian Lectures on Midwifery delivered before the Medical Society of London.* Lond., 8vo, Churchill, 1862, pp. 131.

In the preface to this work the author states that many of the facts, clinical and physiological, will be found in his paper on the pathology of obstructive phlebitis and the nature and proximate cause of phlegmasia dolens, in vol. xxxvi of the 'Medico-Chirurgical Transactions,' but the whole subject has in the present work been very differently treated, and the facts themselves very differently arranged. Instead of giving priority to the physiological researches, priority has here been given to the clinical, and the question of the proximate cause of the disease has been worked out from clinical facts alone. The definition of the disease given by Callisen and Hull—a tense, elastic, hot, painful swelling, which generally extends rapidly over the whole of one of the lower extremities, the skin retaining its natural colour, or even becoming whiter, and presenting more or less of a shining appearance—is the one adopted. The author compares this condition with that present in phlebitis as described by surgical writers, and states that it is impossible not to recognise a great discrepancy between the two. Phlebitis, or, as it is termed, "crural phlebitis," cannot in a pure, uncomplicated form give rise to all the several and diversified lesions, involving disturbance in the sensorial, motorial, and secretory functions of the limb, met with in phlegmasia dolens, and cannot, therefore, be its proximate cause. The etiology is then considered. From an analysis of 60 cases, it appears that it occurred in 8 cases after the first labour; in 8 after the second; in 3 after the third; in 5 after the fourth; in 6 after the fifth; in 1 each after the seventh, tenth, eleventh and twelfth pregnancies. An analysis of the cases did not show any necessary connection between undue severity or difficulty in the act of parturition or infliction of mechanical injury and the occurrence of phlegmasia dolens. Thus, of 38 cases, the labour was natural in 22, severe only in 10. Febrile and inflammatory disturbances precede the attack probably, but these do not seem to be produced by the labour itself or by any injury sustained during the parturient act. With reference to the side affected, the general result was that the left lower extremity is more liable to the attack than the right, which is connected, the author believes, with—1, the greater frequency of attachment of the placenta to the left side; and 2, to the greater relative disposition to decumbency on the left side. As to the date of attack, no particular period seems liable. Out of 57 cases, in but 43 it began within twenty-one days after delivery. The puerperal actions and constitutional conditions peculiar to the three weeks following parturition constitute, it is contended, the predisposing rather than the exciting causes of the attack. The occurrence is determined strictly in all cases by the supervention of some casual cause of bodily derangement, of febrile disturbance, or of inflammatory action. Thus, in 33 it followed some form of puerperal fever; 13, exposure to cold; 3, dietetic errors; 3, operation of epidemic influences; 4, tubercular disease of the lungs; 2 followed quickly upon severe and protracted labour. A febrile movement, variously induced, seems thus the bridge or connecting link between the act of parturition and the final development of the disease. The 33 cases of phlegmasia dolens produced by puerperal fever are further analysed. In 14 of these the labour was of a severe and protracted character, and it may, therefore, be presumed that some injury was sustained by the uterine organs calculated to give rise to inflammatory action. In 19 the attack followed upon some form of puerperal fever which had presumably arisen independently of difficult parturition or any obvious injury of the uterine organs. The object in thus dividing the cases is to show that uterine injury is less frequently the cause of phlegmasia dolens than is generally supposed. The author states that the views he has expressed as to the blood origin of the disease are supported by the facts of cases of phlegmasia dolens in non-puerperal individuals. He has collected 40 such cases. In 10 of these the attack followed upon some form of fever; in 11 it followed on exposure to cold; in 8 it occurred in the progress of pulmonary consumption or some other constitutional disease; in 7 it followed upon the operation of local causes calculated to vitiate the blood, such as suppurating sores, malignant ulcerations, &c.; in 3 cases it followed sudden suppression of the catamenia, which in 2 was occasioned by exposure to cold. The author submits that it is a matter of inference from the clinical facts alone that it is to an abnormal condition of the blood that we must look for the immediate origin of the disease. The symptomatology is next discussed. The disease may be simple, the attack coming on—1, during convalescence from some form of puerperal fever; 2, in connection with large losses of blood; 3, as result of exposure to cold; 4, from dietetic errors; or it may be complicated, as with puerperal fever, pelvic inflammation, &c. The morbid anatomy is next described, the general conclusion being that the lesions are so varied that the "phlebitic" theory of the origin of the disease will not account for it. The second lecture is chiefly occupied by a *résumé* of the author's researches previously related in the 'Medico-Chirurgical Transactions,' into the origin of phlebitis as connected with the pathology of phlegmasia dolens, from which it appears that phlebitis occurring as a local disease, and from the operation of a local cause, is never associated with the phenomena of phlegmasia dolens, but that when it arises from or in connection with constitutional causes, or from local causes calculated simultaneously to infect the blood generally, then that the lesion of the veins is very generally accompanied with the symptoms of phlegmasia dolens; the phlebitis plays a prominent, though subordinate, part in the phenomena of the disease. Thus, the clinical and the physiological facts point to the blood origin of the disease. In the third lecture the treatment is considered. This is to be chiefly preventive. Irritations of the solids tending to inflammatory disease are first considered. The usual dietary after labour the author considers hardly suited for the purpose of adequately supporting the vigour of the system and enabling it to sustain the important actions thereto incidental. He recommends strong beef tea to be given daily to the patient, in quantities regulated by the requirements of the case: good milk diluted with barley water as an ordinary drink. Such a dietary is to be preferred to one exclusively watery and farinaceous. Irritations connected with after-pains, urinary retention, an overloaded or neglected state of the bowels, &c., are to be prevented by careful management of the labour. After-pains are prevented by allowing the expulsion of the fœtus and after-birth to be effected slowly, care being taken that clots are not left behind. The author recommends that the bowels be moved by a full laxative dose of castor-oil as soon after delivery as the patient can conveniently take it, instead of waiting three or four days, as is the usual practice. The proper management of the lacteal secretions is considered of importance, and that it is good practice to put the child early to the breast. The subject of puerperal fever is incidentally discussed. Secondly, the vitiation of the *blood* tending to febrile disease is the last pathological link connecting the phenomena of labour with those of phlegmasia dolens. The circumstances present after labour predispose to blood vitiation. These are enumerated:—presence of devitalized blood, of an extensive wound, of retention of placenta or secundines, puriform or inflammatory discharges from the uterine wound, presence of organic products of disintegration of uterine tissue. Some superadded agency is, however, necessary:—1, septic matter introduced by finger of attendant or otherwise; 2, operation of epidemic influence; 3, septic agencies, such as erysipelas or scarlet fever; 4, confined, impure air; 5, depression from hæmorrhage or other cause. The preventive treatment based on the foregoing considerations should consist in observance of hygienic and dietetic rules, and steady use of antiseptic injections. For the latter purpose creasote (one drop to an ounce of water) may be beneficially employed after water alone has been used. The curative treatment is considered under two heads, the sthenic and the adynamic. In the treatment of the latter class of cases full, concentrated, and frequently repeated doses of carbonate of ammonia in fresh infusion of senna are highly spoken of. The varying circumstances of different cases necessitate a corresponding variety in the treatment.

FOX, Dr. TILBURY.—*On the Vessels concerned in the production of Phlegmasia Dolens.* Rep. of Obstet. Soc. of London, Lancet, July 26th, 1862.

The author considers Dr. Mackenzie's experiments insufficient to determine the question of the production of phlegmasia dolens, and argues that venous obstruction is followed by œdema only; that the action must be the same whether the obstruction be produced locally or indirectly through a vitiated blood condition. If any difference exists in the two cases, the changes over and above œdema which characterise the lesion as phlegmasia dolens, must be ascribed to the action of the blood state (absent in the locally produced disease) upon the general textures of the limb. If this view be adopted, the influence of the veins is *nil*, and we must look for the explanation in a special action carried on between the blood and the tissues. The clinical history forbids the acceptance of such a doctrine, inasmuch as the very conditions (viz., blood vitiation tending to produce "phlebitis") which are regarded as the cause of phlegmasia dolens very frequently exist, and yet are very rarely followed by white leg; for example, in the various blood poisonings unconnected with the parturient condition. If present under the circumstances mentioned the disease ought not to be so frequently unilateral, nor confined to the lower limbs. The occurrence of phlegmasia dolens in cases of cancer, phthisis, pressure, &c., cannot be explained thereby. The death-rate of phlegmasia dolens forbids the same interpretation of the phenomena. In the experiments of injection of lactic acid into the blood, performed by Dr. Mackenzie, there is no evidence to show that in the dogs operated on anything but œdema resulted. The existence of phlebitis, except as the rarest feature, is fallacious in cases of venous disease. We must distinguish between the coincidences and the essentials of phlegmasia dolens, as in the case of puerperal fever complicated by the latter. In the combination, the pathological changes normal to phlegmasia dolens may be modified by the tissue actions, abscess, &c., which are the consequences of the existence of a virus in the blood. In simple uncomplicated phlegmasia dolens the tissues are passive, so to speak. The theory propounded by White is correct as to the nature, though not as to the cause of phlegmasia dolens ; in the natural condition a large quantity of lymph travels from the limbs towards the thoracic duct, and when this current is markedly impeded, white leg results. The author then examines the case of the absorption of a poison into the cellular tissue, and it appears that this may or may not be followed by phlegmasia dolens, according as the obstruction in the lymphatics affects the main current or merely some minor channels, the latter being the rule. The swelling is modified in severe cases by the relative action of the septic blood state and tissues. Cases are quoted to show that lymphatic obstruction is sufficient and alone necessary to give rise to phlegmasia dolens. Thus the author concludes :— (1.) That phlegmasia dolens is a local disease. (2.) No general symptoms need be present, this implying absence of blood poison. (3.) Phlebitis, however produced, cannot give rise to phlegmasia dolens, but œdema only. (4.) Phlegmasia dolens may occur in, but forms no necessary part of blood poisoning such as tends to phlebitis, but is modified thereby frequently ; and any tissue conditions over and beyond the presence of fibrinous serosity, and the consequent hypertrophous state of the areolar tissue are in no wise essential components of phlegmasia dolens, but common alike to very many different blood diseases. (5.) Obstruction to the main lymphatic channels alone is capable of giving rise to white leg, and acts by preventing the removal of the lymph from the affected limb. (6.) The obstruction may be the result of—*a*, extrinsic pressure ; *b*, thrombosis due to sudden compensatory absorption of vitiated fluid after sudden loss of any kind ; *c*, inflammatory changes in the vessels themselves, rare. (7.) The effect of the action of venous obstruction upon the phlegmasia dolens is an intensification of the general swelling, and the presence of œdema during the subsidence of the enlargement of the limb. Lastly, a frequent but unrecognised source of blood vitiation is considered, viz., in cases where large tracts of cellular tissue are diseased, as in erysipelas, sloughing, cancerous, phthisical and dysenteric ulcerations, and the like ; the lymphatics charged with effete matter and an excessive number of imperfectly developed pale cells formed in their glandular part, pour their contents into the venous system from the thoracic duct, and this may be a cause of thrombosis at the right side of the heart and in the vessels leading to the lung.

BARNES, Dr. ROBERT.—*Albuminuria at the seventh month of Pregnancy; Convulsions; Labour induced by dilatation; Delivery completed in two hours; Recovery.* Lancet, Jan. 4, 1862.

The patient having had previously first slight, then extensive anasarca; became blind, and then was seized with convulsions, remaining more or less comatose. She was bled with the effect of relieving the fits, remaining in a comatose state. There was no indication of labour: head presenting. The author's peculiar method was put in operation, the vagina first, and then the os, were dilated by fluid pressure. Turning was attempted, but not successfully; a loop of the cord came down, was pulseless, and the head was then perforated and extracted. The interest of the case consists in the rapidity, certainty, and safety with which labour was induced and completed; for whereas under ordinary circumstances, delivery could not have been counted on in less than twelve hours, with attendant risks of various kinds, by the method adopted it was effected in two hours.

FELDMANN.—*On the Treatment of Puerperal Convulsions.* Bayer. Intell. Bl., 1861.

In the treatment of cases of puerperal convulsions the cause of which is the presence of albuminuria, the author advises the employment of tartar emetic. He was led to make systematic trial of this remedy in consequence of the observations of Legroux. Three cases are related. In one, a patient near her full time became affected with convulsions. There was much albumen in the urine; œdema generally. She was bled to twelve ounces, and every hour was given a dose of tartar emetic and ipecacuanha. The convulsions ceased after vomiting and diarrhœa had been produced After two days consciousness returned. The albumen diminished in quantity. Twelve days later delivery of a living child. Complete recovery. In the second case an attack of convulsions set in fourteen days after delivery with left hemiplegia. The next day several attacks. Six days later she entered the hospital. Urine strongly albuminous. Two grains of tartar emetic with ipecacuanha produced repeated vomiting. The paralysis improved, and the quantity of albumen diminished under this treatment. In eight days she was nearly convalescent. In a third case the remedy was administered to a patient under these circumstances:—During the last month of pregnancy there was obstinate constipation, œdema of face and hands. Labour set in with slight pains, membranes broke, there was intense headache; much albumen in urine. Fearing convulsions the patient was bled; no effect on the headache; no labour pains present. Convulsions set in, and tartar emetic given every ten minutes; an enema administered, and a second bleeding about eight hours after commencement of labour. The pains which had been slight became vigorous, after repeated vomiting and action of the bowels had been produced. • An hour later a second attack of convulsions, immediately followed by delivery of a child which did not at first breathe, but was finally made to do so. Three and a half hours later a third attack of convulsions and a third bleeding. Next day more convulsions; in the evening antimony again given; the headache diminished, and the patient slept. Next day improvement. Third day after delivery slight increase of headache, and convulsive action of eyes. Antimony again given, and continued at intervals five days longer. Three weeks later all trace of albumen had disappeared from the urine.

The conclusions offered on the subject are:—The eclampsia in such cases is connected with the albuminuria. The albuminuria is produced by the pregnancy, and aggravated by the constipation present. The attacks of convulsion begin with the pains, but convulsions having set in the pains diminish. Bleeding neither prevented the first attack of convulsions nor the return of the second or third attacks. The action of the tartar emetic had the effect of inducing active uterine contractions, and of hastening the termination of the labour. The beneficial effects of the tartar emetic as regards the convulsions is proved. The author considers Frerich's theory of uræmic poisoning as the proximate cause of the convulsions, correct. The favorable action of the tartar emetic is due, the author thinks, to its eliminative effect—to the vomiting and diarrhœa it sets up. He thinks further, that the tartar emetic has a neutralising effect on the carbonate of ammonia, supposed, on Frerich's theory, to be circulating in the blood and giving rise to the convulsions.

BEHM.—*On Eclampsia.* Mon. f. Geb. Supplementary volume for 1861, p. 1.

The author has tabulated cases of eclampsia observed by him from 1836 to 1861. These are twenty in number. In nearly three-fourths of the cases the women were pregnant for the first time or in labour for the first time. In 7 cases previous to term, two of the patients were relieved without labour then supervening; in the other 5 labour came on prematurely. Thirteen were cases of eclampsia occurring at full term. In the latter series the convulsions came on;—in the dilatation stage of labour, in 2 cases; after evacuation of liquor amnii, and before birth of child in 7 cases; in the fifth stage of labour 1 case; after labour quite completed, 3 cases. In 11 instances, when convulsions came on during labour, they continued after the labour was completed. The presentation was cranial in 16 cases, pelvic in 2, transverse in 2 (one was a case of twins).

Result favorable for mother and child in 11 cases, fatal for both in 2 cases; in one of the latter the woman died undelivered; result favorable for mother alone, 6 cases; for child alone, 1 case; total mothers recovered, 17; children saved, 12. Of the children not saved 2 were premature and "macerated." Labour was completed naturally in 8 cases, by use of forceps in 9, by turning in 2. Placenta artificially extracted in 5 cases. Putting the results and the conduct of the labour side by side we find, of the 17 cases in which the mother was saved, the labour was ended by natural efforts in 7, by the forceps in 8, by artificial extraction in 1 (case of twins), by removal of placenta in 1. In the fatal cases (for mother) the labour was ended thus:—In 1 case the woman died undelivered; in 1 forceps used; in 1 turning. The labours in which the children were saved were ended naturally in 5 cases, in 6 by forceps, in 1 by artificial extraction of child. The labours in which the children died were ended naturally; in 3 cases (1 macerated, 1 premature); by forceps in 3 cases, by turning in 1, undelivered 1. Respecting the months of the year in which the attacks occurred, it is stated that the months of October, November, December, and January, included together 10 cases; June and July together 5 cases.

The author considers that there are two forms of the affection, the one associated with a more or less marked but continuous comatose condition; the other, in which the latter condition is wanting; the former may be termed the cerebral, the latter the hysterical or convulsive form. The liability to the affection is hereditary, though this rule is open to marked exception. That the affection is the result of reflex irritation seems undoubted; respecting the nature of the exciting agent the author considers that eclampsia is only witnessed in its characteristic form when the uterus is in a certain condition, and that the uterus only possesses the irritating power in question before the commencement of the last two or three months of gestation. The lower segment of the uterus seems to be the special seat of this eclampsia-exciting capability. The exciting cause varies, but in many of the cases related such a cause was distinguishable in certain externally acting agencies, *e. g.* sudden change of temperature and the like.

With reference to the more recently prevalent theory of blood poisoning as a cause of eclampsia, the author thinks it not consistent with known facts. In many cases there is considerable œdema during pregnancy without convulsion, and there are also a large number of cases of convulsions without œdema. He cannot admit, in the face of known facts, that albuminuria is anything more than a predisposing, not an essential, condition.

In reference to the treatment of eclampsia, the author regards chloroform as palliative; opium is not adapted for the treatment of cases where deep comatose condition is present; in such cases free bloodletting is indicated. In the hysterical form of eclampsia, the employment of bloodletting must be limited. After bloodletting calomel is to be employed in the comatose class of cases, but in the other form opium, castoreum, and remedies of a like character, are to be preferred. Respecting the propriety of operative procedures during the progress of natural labour, in such cases caution is to be observed; the less "vulnerative" the operation the better it will be borne.

RAMSBOTHAM, Dr.—*On the Treatment of Puerperal Convulsions.* Med. Times and Gaz., May 3rd, 1862.

The author, referring to a case in which copious bleeding had been employed in a case of puerperal convulsions, the patient recovering, expresses his opinion that without such depletory treatment the patient could not possibly have recovered. He founds his opinion on the fact that, before such treatment was adopted, the proportion of recoveries to deaths was very much smaller than it is now. Formerly, more than half the patients attacked died. The present improved results he attributes mainly to the free use of the lancet.

PART III.—DISEASES OF INFANTS.

MÖLLER.—*Cases of Acute Rachitis.* Königsb. Med. Jahrb., 1862, p. 135.

Two cases are related in detail, the first that of an infant fourteen months old, the second that of a child one and three quarter years old. In both cases the great vascularity of the affected bones was noticed, and also great tendency to bleeding. The pain felt in both cases was very great.

FORSTER.—*Thermometric Observations on Children.* Journ. f. Kind., July and Aug., 1862, p. 5.

As an indication of the intensity and character of the disease in febrile attacks, the frequency of the pulse is little to be depended on in the case of children. On the other hand variations in the temperature of the body offer more certain indications. This was, long ago, maintained in general terms by Hippocrates and Galen, but practically it has not been utilized. The author is engaged in an extended series of observations on this subject, some of the results of which are here given. The instrument used was a Reaumur's thermometer, twenty-three centimètres (eight and a half inches) long, in which slight variations are easily appreciable. The bulb of the thermometer was placed in the axilla, this part of the body being considered to give the best indications as regards temperature. The results now given are those of observations made during health and during the first days of life.

A constant lowering of the temperature of the body takes place after birth. This lowering of temperature reaches its maximum, on an average, within the first two hours after birth (28·97° Reaum.).

Hours after birth.	Average temperature. Reaumur.	Minimum temperature.
¼—2	28·97	28·2
2—6	29·12	28·1
6—10	29·49	28·7
10—15	29·53	29·0
15—20	29·31	28·8
20—25	30·04	29·7
25—30	29·9	29·7
30—36	30·07	29·7
36—42	30·04	29·4
42—48	29·86	29·3

The *résumé* of the observations on this period is that the temperature of the body diminishes within the first two hours after birth to 29° Reaum. on an average. Sometimes the minimum is reached a little later than this; the minimum itself is lower, and the whole stage of low temperature is more protracted in asphyxiated and weak children than in children who are strong and breathe well.

A subsequent elevation of temperature always occurs. The average time at which the highest temperature was observed was from thirty to thirty-six hours after birth. The average temperature at the time was 30·07° R.; the highest was 30·4°, the lowest 29·7°. The average amount of elevation within rather more than thirty hours was 1·1° Reaum.

These results agree generally with those previously placed on record by Bärensprung. The elevation of temperature in question was noticed equally when the infant had and had not taken food.

Temperature during the first nine days of life :

Days.	Maximum temperature, Reau.	Minimum temperature, Reau.	Average temperature, Reau.	Number of observations.
1 —1½	30·4	29·7	30·01	22
1½—2	30·5	29·3	29·93	16
2 —2½	30·4	29·3	29·87	28
2½—3	30·3	29·2	29·74	16
3 —3½	30·3	29·3	29·76	27
3½—4	30·2	29·0	29·68	17
4 —4½	30.4	29·2	29·68	25
4½—5	30·3	29·2	29·72	18
5 —5½	30·4	29·2	29·82	23
5½—6	30·5	29·3	29·81	16
6 —6½	30·6	29·4	29·83	23
6½—7	30·3	29·1	29·75	17
7 —7½	30·4	29·3	29·82	22
7½—8	30·4	29·0	29·72	11
8 —8½	30·0	29·4	29·7	8
8½—9	29·9	29·6	29·75	2

Thus, after the first thirty or thirty-six hours after birth the highest temperature is observed. Then a fall takes place which reaches its maximum at four days after birth (average maximum 29·68° R.). Again, between the fifth and eighth days, a new elevation of temperature occurs; but this new elevation is less in degree than that previously noted. The average maximum observed was 29·83° R. The results obtained were here slightly different from those of Bärensprung who has noted the second elevation as occurring from the sixth to the eighth days, and the elevation reached was greater, viz., to 30·35°. The author believes that the difference is owing to the comparatively small number of cases observed by Bärensprung. In individual cases a considerable variation from the average may be observed. This difference amounts, according to Förster, between the second and ninth day of life, to 1·6° R. The average of the whole series of observations on healthy children for the period between the second and ninth day was 29·79° R. Some differences were found in the results, according as the infants were large and heavy, or the reverse : large and well-developed children had a slightly higher temperature than those less robust. Thus, the average temperature in the early part of the day was, in children weighing eight pounds and upwards, 29·84° R., but in children weighing less than this, the average was 29·65°. The evening observations again gave an average for the heavy children of 29·94°; for the others, of 29·77°.

Respecting the temperature at different times of the day, observations showed that from the second to the ninth day there was an average elevation of temperature from morning to evening amounting to ·11° R.; the average morning temperature being 29·75° R.; the average evening temperature 29·86° R.

RADETZKY.—*The Pathology of Catarrhal Inflammation of the Lungs in Infants.* Petersb. Med. Zeitsch., i, p. 147.

The presence of a mucous plug in the bronchial passages prevents access of air, but allows exit of air already in the lungs. The efforts of coughing, &c., have the effect of driving the air still more completely out of certain parts of the lungs. Hence ensues collapse of lung-tissue, which collapse is intensified by pressure from surrounding healthy lung-tissue. The lung-tissue so collapsed is designated by the author "congestive acquired atelectasis." A further stage is "hæmorrhagic," acquired atelectasis. In the various "pneumonias" of authors, we find different stages of the catarrhal lobular pneumonia. In the progress of this disease there are four stages:—1, atelectasis with congestion; 2, stage of inflammatory swelling; 3, purulent stage; 4, termination by resolution, abscess, or tuberculization.

BARTHEZ.—*On the Expectant Treatment of Pneumonia in Children.* Gaz. des Hôp., No. 43, 1862.

In the space of seven years 212 children between the ages of two and fifteen years, came under treatment for primary pneumonia, of these two died. Half of these cases were treated on the expectant system, and the majority of the rest merely with purgatives. emetics, or baths. In only a sixth were these powerful measures resorted to. The pneumonia disappeared from the sixth to the eighth day; in many cases earlier than this, and sometimes in twenty-four hours; when double, the time occupied was fourteen days whatever the treatment. When more severe remedies were used the duration of the disease was increased, so also the duration of the convalescent stage. When the lung is affected at the middle part, the cure most rapidly follows; pneumonias of the base and of the apex are of nearly equal duration. The duration is longest when the whole of the upper part of the lung is affected. Double pneumonia lasts still longer.

KEILLER, Dr.—*Infantile Leucorrhœa.* Ed. Med. Journ., Nov., 1862.

It is impossible to point out the difference between the discharge of gonorrhœa and that of simple leucorrhœa, there are no characteristic microscopic appearances. Great caution is necessary in expressing an opinion on the nature of discharges from the female genital organs. Leucorrhœal discharges occur both in strumous and in healthy children; sometimes dentition is the cause, at other times neglect of cleanliness. Sometimes these cases appear in an epidemic form. The discharge of leucorrhœa is more external, not vaginal as in adults; the secretion is also more watery and adherent than that of gonorrhœa; the parts are not inflamed or very tender, they are all moist, and the secretion becomes encrusted on the adjoining thighs. The child complains of itchiness, but there is no inflammation of the urethra, nor scalding; the hymen is uninjured. The author believes with Mr. Wild of Dublin that leucorrhœa is contagious.

PART IV.—DISEASES, ETC., OF THE FŒTUS.

VEIT.—*On the frequency of Coiling of the Funis round the Fœtus, and its influence on the Child.* Mon. f. Geb., April, 1862.

The frequency of the occurrence of the coiling in question has been stated as about one in forty-five cases. The author found that out of 2550 labours in 442 cases the funis was wound round the neck and body once in 5·8 cases; of the 442 children 63 were stillborn and 7 dead; of the remaining 2108 labours when no such coiling was noted, there were 84 still-births, and 23 born dead. It thus appears that disturbances of the fœtal respiration processes in cases of coiling is twice or three times greater than when such coiling does not occur. It was found numerically also that the danger is greater to the child in primiparous than in other cases, when the coiling is present. Other things being equal, it is greater, also, for small infants.

BILLI, A.—*Third case of Unusual Twisting of the Cord.* Annal. Univ., vol. clxxix, 1862, p. 460.

The woman, æt. 22, was delivered in November. In the month of September previous, the movements of the fœtus had been so strong as to give considerable pain. Without apparent cause the movements ceased in the beginning of October, and the abdomen ceased to grow larger, and a sensation of weight was experienced. A dead fœtus was expelled on November 12th. The cord considerably twisted on itself presented two distinct and irregular dimensions. The placental portion was larger than usual, of an obscure red colour, fifty-seven centimètres long, and just over five centimètres in circumference. The other portion was twisted on itself, and had a circumference of ·09 centimètre, a length of one centimètre two millimètres, and ended at the umbilicus of the fœtus. The skin of the umbilicus was not elongated, as usual, in the form of a cone. An injection of water could not be made to pass through the umbilical vein at the twisted part of the cord. The fœtus was in an advanced stage of maceration. Within the abdomen the umbilical vein was a little reticulated, the umbilical arteries slightly dilated. The brain was of the ordinary form, of soft consistence, so that the lateral ventricles could hardly be distinguished. The cerebellum presented externally its normal shape, it was rather small in proportion to the size of the cerebrum. The left lobe of the cerebellum was considerably softer than the right, and in a state of liquefaction. The author considers this analogous to those which he has previously related of the same kind; the phenomena observed being almost completely identical; viz., as regards the peculiar twisting of the cord, its impermeability, the state of maceration of the fœtus, the relative condition of the two lobes of the cerebellum. And it substantiates what was laid down by the author in his first memoir:—That the alteration of one of the two lobes of the cerebellum determines rotatory motions of the fœtus; that these motions produce the twisting of the cord; and that, in consequence of such twisting, the umbilical cord circulation is arrested and the fœtus killed.

DOHRN.—*On the Torsion of the Funis and the Stenosis of its Vessels produced thereby.* Mon. f. Geb., Aug., 1861.

The author, after giving an historical *résumé* of writings on this subject, describes the following cases :—A pluripara dated her pregnancy from the middle of December, 1839. After the end of June following the movements of the child ceased, in consequence, as she believed, of a severe fright, and from this time the abdomen and breasts began to diminish in size without any feeling of illness. First, on the 12th of December, labour-pains began to be felt. The uterus was found smooth and hard, the pains very weak. Without bleeding, or appearance of liquor amnii, a female fœtus was expelled breech foremost. The fœtus was macerated, and much shrivelled, the extremities thin, the epidermis wrinkled. The cranial bones movable one over the other, orbits empty, the two halves of the lower jaw separate. The fœtus was of about seven months' development. Its length 13″, weight one pound. Funis, medium thickness, 18″ long, 28 times twisted on itself and at its fœtal end over a space of 3″ very much contracted. The umbilicus protuberant. Injections pass through the vessels. The umbilical vein has a diameter of ½‴ at the constricted portion, near that of 4¼‴, elsewhere of 4‴. The width of the left umbilical artery 2″, but at its constricted part scarcely ½‴, the right umbilical artery everywhere about 2‴. Placenta exhibits microscopically many fat-cells and pigment-corpuscles. No trace of blood effusions therein. There was no other pathological lesion of the fœtus. The author considers that the torsion of the cord was the cause of the death of the fœtus. Further remarks are made by the author on the nature and kind of effect produced by twisting on the circulation in the cord.

GREAVES, GEORGE.—*Some observations on Apnœa Neonatorum.* Brit. Med. Journ., July 5th, 12th, 1862.

The author states that this is an attempt to reduce into a consistent theory the facts relating to the condition of the vital functions of the fœtus during labour, and of the new-born child in the interval which occurs between birth and the full establishment of respiration. This question has not, he contends, received the attention it deserves. The subject is commenced by a reference to the state of infants apparently stillborn. Of these there are three classes :—1. The surface of the child is pale, the body is motionless, the pulsation of the funis has entirely ceased, the beating of the heart can scarcely be felt ; this is syncope. 2. The external phenomena are the same, but there is still some pulsation in the cord, though it is weak and slow ; this is apnœa. 3. The pulsation of the cord is not necessarily slow, may be strong, the surface is rather blue than pale ; the face and neck are livid and swollen ; the eyes are often widely open. This is a partially apoplectic or comatose condition. The two first classes of cases are the same in kind, only differing in degree, and they depend on one cause, namely, the more or less prolonged interruption to intercommunion between the organisms of the mother and the fœtus ; but in the third class of cases the condition is essentially different, there have been incomplete attempts at respiration, and the phenomena of congestive apoplexy are present.

The consequences produced by interruption to the placental action on the fœtus are two, the fœtus is deprived of food and also of air. The effects of the deprivation of the latter only it is necessary to consider. This suspension of the breathing function of the placenta may be effected:—1. By the blood of the mother not being sufficiently arterialised. 2. By great loss of blood or other cause producing syncope in mother, whereby the quantity of blood sent to the placenta is materially diminished. 3. By interruption to the circulation through the umbilical cord. This most frequently occurs during labour; but it may occur prior to this and from other causes: knotting of the cord, or knotting round a limb, or round the neck; extensive œdema of the cord; twisting of the cord on itself; these causes also may produce the effect alluded to. 4. There is a class of cases in which there is interruption to the breathing function of the placenta owing to contractions of the uterus during labour. This is intermittent in its action, and does not usually go beyond a lowering of the vital activity, and a weakening and retardation of the pulse of the fœtus while the cause is in operation. This class of cases the author wishes to direct special attention to. He states that it has been found by many observers that there is during labour a retardation of the fœtal pulse, and he substantiates this by reference to the works of Hamilton, Kennedy, Moir, and Sidey. The diminution of the frequency of the fœtal pulse during the pains of labour, to the extent of a third or even of one half, may, he presumes, be accepted as an ascertained fact. What is the cause of this retardation? "It will be at once admitted that it is a cause which, operating with more than ordinary force, must be the chief agent in producing still-birth." It has been the custom to ascribe the still-birth, when not manifestly dependent on immaturity or disease of the fœtus, to pressure of the uterus on the fœtus. It has been assumed that this pressure is exercised on the chest or head; it is difficult to conceive, however, how this can be the case. Compression of the placenta between the body of the child and the placenta has also been set down as a cause. This may be the case, but only as subsidiary to one which is, the author believes, the main agent in producing the effect in question, viz., the obstruction by the contraction of the uterine fibres of the flow of blood through the ultimate ramifications of the uterine blood-vessels, the "curling arteries." The temporary stoppage of the circulation in the vessels here alluded to has not been spoken of by any previous writer. The blood in the fœtal vessels cannot be duly aerated if the blood sent to the placenta be greatly diminished, and as a consequence of this it stagnates. The fœtal heart beats more and more weakly, and less frequently, and finally ceases unless the obstruction to the placental circulation be removed. The heart of the fœtus ceases to act from over distension. In the early stage of labour the pains occur with long intervals, there is consequently ample time for the placenta to recover itself; if the labour be very rapid, and intervals of rest be not afforded, the child is born apparently or really inanimate. In a more advanced stage of labour, when the liquor amnii is discharged another cause comes into operation, the placenta becomes actually partly detached, and the connection between the placenta and the uterine arteries is in places permanently broken; in cases of placenta prævia this event occurs at the commencement of labour and in a large proportion of such cases the child is stillborn. The cause now pointed out by the author is in operation in every labour. To the possible objection to the position here taken up, that the circulation in the cord cannot be suspended, inasmuch as the cord still continues to pulsate, the author answers that pulsation is not necessarily a sign of passage of blood; the cord pulsates after it has been tied between the ligature and the heart. Compression of the placenta generally, may intensify the action here alluded to, but in a secondary manner. After labour has begun, the funis may be compressed and extended from well-known causes. The action of the uterus may be thereby intensified, and the uterine arteries more and more compressed as above described. Compression of the head has possibly its share in producing still-birth in tedious labour from contracted pelvis, but this cannot be the case in still-birth with unusually rapid labour. A further effect of stoppage of placental circulation is that the entry of blood from the placenta to the fœtus is prevented, and what arrives is impure and devoid of vitalising properties. When the apoplectic form of stillbirth is present, the phenomena are different; the pulmonary organs have been partially expanded, the pressure on the column of blood in the ductus arteriosus has been relieved to a certain extent, while the foramen ovale has become partially closed. On this respiration process being interrupted, however, the right heart becomes congested, hence the lividity, swollen features, &c. The alleged effects of secale cornutum are explained by what has been here related of the effects of rapid labour. It is fatal to the child when it gives rise to permanent unresting uterine contractions, unless we admit, at least, the directly poisonous influence of the drug on the fœtus.

The practical conclusions drawn are:—It is perfectly useless to delay tying the cord after the expulsion of the child; more, it is injurious by interfering with efforts at resuscitation. In attempts to resuscitate a stillborn child, the first thing which should be done is to allow of the escape of a minute quantity of blood from the cord, thus to relieve that distension of the heart which prevents its action. If after a pause of two or three minutes the child does not breathe, and is not really and manifestly asthenic from prematurity, disease, &c., the cord should be divided, and one to three drachms of blood allowed to escape. In apoplectic cases the quantity removed may be greater. The next step is to induce respiration. The warm bath is, the author believes, injurious; dashing cold water on the chest, slapping the back or nates with the hand, circular friction on the epigastrium with the tips of the fingers are all useful. These rarely fail if the heart still beats. The direct inflation of the chest with air is preferred to the "ready method" should the above measures fail.

SIDEY, Dr.—*Intra-uterine Convulsions.* Ed. Med. Journ., 1862.

In a case observed by the author the movements of the fœtus during labour were very violent, leading him to suppose it to be convulsed. Soon after birth convulsions took place, and continued during the next seven months when it died. In the fifth and seventh pregnancies, and in this which was the eleventh pregnancy, the woman had felt similar sensations; after the seventh month, in each case, she could not go out in consequence of the "shakings in her inside." The children on these two previous occasions were born with the same disease, and both died: one at six, the other at fourteen months. Another child died of hydrocephalus. In the present case the ventricles of the brain contained fluid, and their lining membrane was thickened.

M'Leod, Dr.—*Intra-uterine Convulsions.* Ed. Med. Journ., Nov., 1862.

A woman, æt. 33, taken in labour with her fourth child. The head presented, and delivery promised to be speedy, when a delay of an hour and a half occurred without apparent reason. A severe pain finally expelled the head; and the bent position of the right arm, it was evident, had been the cause of the protraction. The child, a male, was rigidly contracted in all its limbs; washing was with difficulty performed, limbs could not be extended, hands clenched, thumbs turned in. It was never able to suck or swallow from the locked condition of the jaws. When stirred, or moved in any way, the whole body became spasmodically contracted and bent backwards. Fits occurred every hour, or oftener, particularly when touched. It whined more or less till the time of its death, which took place rather more than a week after its birth. Little or no urine was passed after first day. Bowels opened several times. Body not inspected post mortem. The mother felt certain from the sudden and violent movements of the child for about six weeks previous to birth that there was something unusual, the movements being so painful as almost to make her cry out. They continued about an hour, gradually subsiding, and recurred frequently both day and night. Every effort to sustain life by giving enemata failed by bringing on a paroxysm of convulsions.

Forster (Würzburg).—*On Human Malformations.* With an atlas, 26 plates and 254 figures, 4to, pp. 171, Jena, 1861.

This work contains an explicit account of the malformations as at present understood. The first part of the work relates to the nature, causes, &c., of malformations. The influence of the parents, of one fœtus upon another in cases of twins, of the position of the fœtus, knottings of the cord, adhesions between the fœtus and membranes, the effects of these are all severally pointed out. A short history of the literature of the subject is next given; and, lastly, a description of a large number of malformations, systematically arranged under the following heads:—1. Monstra per excessum. 2. Monstra per defectum. 3. Monstra per fabricam alienam.

REPORT

ON

TOXICOLOGY AND MATERIA MEDICA.

BY

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PULVERIZATION OF LIQUIDS FOR THERAPEUTIC PURPOSES.

POGGIALE.—*Report to the Academy of Medicine on various communications relating to the question of the Pulverization of Mineral and Medicinal Waters.* L'Union, Jan. 9th, p. 53; and Journ. de Pharm., vol. xli, p. 125.

After a general résumé of the researches of MM. Sales-Girons, Pietra-Santa, Auphan, Demarquay, Fournié, Tavernier, Tampier, and others, (see last 'Year Book'), the author gives the results of the researches and experiments undertaken by the commission on mineral waters for the purpose of determining the various questions at issue. As regards the penetration of pulverized liquids, two series of experiments were made, the first on animals, the second on the human subject. In the first series a rabbit was made to inspire a solution of perchloride of iron (1 per cent.) during five minutes. On killing the animal immediately after, the presence of the salt was demonstrated in the parenchyma of the lungs and throughout the whole respiratory system. These experiments were repeated with various forms of apparatus, but with unvarying results. The second series of experiments were made on a nurse at the Beaujon hospital, who breathes through a canula. The experiments consisted in closing the laryngeal aperture with a pledget, on the inside of which was fixed a piece of paper moistened with solution of chloride of iron. A solution of tannin in 100 parts of water was then respired by the patient, the penetration of which into the air-passages was shown by the blackening of the paper. To ensure the success of the experiment, the tongue must be in such a position as to admit of the patient's breathing freely through the mouth, and the laryngeal opening must be closed air-tight; the fulfilment of the latter condition was found to be very difficult, but the final results were perfectly conclusive. Another question of importance relates to the refrigeration of the liquid in the act of pulverization, which sometimes amounts to 23° Fahrenheit. This arises partly from the rapid evaporation, which is determined by the multiplication of the liquid surface, partly from the loss of temperature consequent on the expansion of the compressed air. To remedy this inconvenience, it is necessary that the air of the chamber should be saturated, and that its temperature should be somewhat higher than that of the water to be pulverized. As to the chemical changes which accompany pulverization, the reporter regards it as certain that all waters which contain hydrosulphuric acid lose about 60 per cent. of this ingredient, whereas those which contain sulphuret of sodium are not altered. As regards the therapeutical value of pulverization, it appears to have been used with signal success by M. Auphan in the treatment of chronic pharyngitis and laryngitis, and in certain chronic non-tubercular pulmonary affections. These results have been confirmed by Trousseau and Demarquay, the former of whom expressed, in the discussion which followed the reading of the report, a decided opinion, founded on his own observations, as to the efficacy of the method, particularly in affections of the larynx.

DIEUDONNÉ.—*On the Pulverization of Medicated Liquids.* Brit. Med. Journ., Aug. 30th.

The author gives a complete, though short, description of the methods of pulverization. He expresses no opinion as to its value in bronchial and pulmonary affections, but admits its great efficacy in diseases of the larynx and trachea.

AUPHAN.—*On Pulverization at Euzet-les-Bains, and its Therapeutical Effects.* Bull. de l'Acad., April 30th, 1861.

BRIAN.—*On the Effects of Respiring Pulverized Mineral Waters.* Gaz. Hebdom., April 5th and 12th, 1861.

CHAMPOUILLON.—*On the Pulverization of Mineral Waters.* Gaz. des Hôp., June 6th, 1861.

DELORE.—*On Pulmonary Inhalation in a Therapeutical Point of View.* Gaz. Méd. de Lyon., Sept. 1st and 16th, 1861.

MOURA-BOUROUILLOU.—*On the Inspiration and Penetration of Pulverized Liquids.* Gaz. des Hôp., Oct. 24th, 1861.

CHAMPOUILLON.—*On the "Diète respiratoire."* Gaz. des Hôp., Oct. 31st, 1861.

BATHS.

KIREJEFF.—*On the Physiological Action of Cold and Warm Sitz-baths in Health.* Virchow, vol. xxii, p. 496.

The author has prosecuted further the important inquiries of Lehmann and Böcker on the same subject. Two healthy soldiers were submitted to experiment. The following was the mode of investigation:—For four days, during which no baths were taken, determinations were made of the weight, temperature, pulse, number of respirations, quantities of solid and liquid aliments, of urine and fæces; and the daily quantity of each of the solid constituents of the urine was estimated in each case. Then, for a period of three or four days, a bath was taken daily at a fixed time, and the same determinations were repeated. During the whole period of observation a uniform diet and mode of life were maintained, the men remaining constantly in one room. A balance was employed capable of indicating differences of a single grain when loaded with the weight of the body. The temperature was taken in the axilla and mouth, the respirations were counted in the sitting posture (as in the bath). The constituents of the urine were determined daily; the chloride of sodium, the urea, and the degree of acidity, volumetrically, the rest of the constituents by weight. The phosphoric acid was calculated from the weight of pyrophosphate of magnesia resulting from the calcination of the ammoniaco-magnesian phosphate, obtained by the usual method.

The following is a summary of the results of the inquiry:—In a warm bath, in which the temperature of the water is above blood heat, the temperature of the body rises, but immediately afterwards falls to the normal standard. No alteration takes place either in the rapidity or depth of the breathing or in the rapidity of the heart's action, but the pulse becomes larger and fuller. The weight of the body either increases slightly or remains unaltered. The gross gain of weight during the bath was found to be from thirty to forty grammes; but after making a deduction for the loss which would have taken place by evaporation from the cutaneous surface if the patient had not been in the bath, the author concludes that the actual gain by the penetration of water into the organism may be approximately estimated as not exceeding ten or twenty grammes. In arriving at this conclusion it is, of course, assumed that the loss of weight by pulmonary exhalation is not materially increased. From the insignificance of the result, it cannot be attributed to the absorption of water into the circulating blood, and is sufficiently accounted for by the mere soaking of the skin. The daily loss by insensible transpiration varied in the two cases. In the one it was increased, in the other it remained the same as before the baths were taken.

The daily quantity and reaction of urine is unaltered; but its specific gravity and the daily quantity of solids excreted are increased. This increase is common to all the constituents of the urine except the phosphoric acid, in respect of which no alteration is observable. The urea and uric acid are both of them excreted in large quantity, but the most marked augmentation takes place in the weight of the ash (non-volatile salts), which in one instance exceeded the normal by half its amount. The chloride of sodium and the earthy sulphates and phosphates, which were separately determined, are increased in like proportion.

In the cold sitz-bath the pulse is retarded and weakened, but becomes fuller and more rapid than before, after leaving the water. The breathing is rendered unequal and short; the temperature of the body sinks (sometimes as much as 2° C.), but gradually rises after the bath, attaining its maximum in two or three hours, when its excess, as compared with that observed before the bath, is in proportion to the duration and degree of the previous depression. It then slowly declines, but does not completely subside for the rest of the day. The effects of the cold bath on the temperature of the body are evidently among the most important of its actions. The analysis of the urine shows that the increase is associated with more active metamorphosis of tissue, indicated by increased excretion of urea, uric acid, chloride of sodium, and other inorganic constituents of the urine. For it was distinctly observable that on those days on which the maximum of temperature attained was highest, the excretion of solids (and particularly of urea) by the kidneys was greatest. The weight of the body appears to be unaffected by the cold bath. The daily loss of weight by transpiration remains unaltered or slightly diminished. Considering that more carbonic acid is expired in proportion to the more active metamorphosis of tissue, this result is opposed to the usually received opinion that the use of the cold bath tends to increase the activity of the cutaneous functions.

It thus appears that exchange of material and metamorphosis of tissue is promoted both by cold and warm sitz-baths. In the case of the warm bath this result is certainly not explained by the immediate effects observed, for the slight increase of temperature, diminished action of the skin, and greater fulness of the pulse, cannot be supposed to affect the exchange of material in a sensible degree. As regards the cold bath, some influence may be ascribed to the diminution of cutaneous transpiration, the contraction of the muscular structure of the skin, the increased determination of blood towards the internal organs, and the cooling of the body; but the relation between these facts and resulting changes in the process of nutrition, as indicated by the quantities of excreta, is so variable and inconstant as to afford no sufficient basis for theory. The author is compelled to fall back on the agency of the nervous system as a main coefficient in the production of the result.

CLEMENS.—*Contribution to the Elucidation of the Physiological Action of Baths.* Med. Centr. Ztg., vol. xxx, Nos. 53, 59. Schmidt, vol. 113, p. 161 (see 'Year Book,' 1861, p. 102).

In his previous rearches on the influence of baths on the "exchange of material," the author observed that the addition to a bath of a soluble salt or a decoction of spruce produced an immediate increase of the quantity of urine, and that this effect attained its maximum of intensity within fifteen or twenty minutes of the addition. To determine the nature and degree of this alteration, the following experiment was made:—The quantity, specific gravity, and solid constituents were determined for six successive periods of fifteen minutes preceding immersion in the warm bath, during immersion (forty-five minutes), and after the addition of decoction of spruce (thirty minutes).

During the first fifteen minutes of immersion the quantity of urine (as compared with the fifteen minutes before) was nearly doubled, the chloride of sodium and urea slightly increased, the phosphates and other non-volatile saline matters quadrupled. In the following thirty minutes this effect gradually diminished, but on the addition of decoction of spruce it was renewed in a higher degree than before, especially as regards the phosphates, the excretion of which was now nearly five times as rapid as before the bath. Experiments in which saline solutions were substituted for the decoction yielded perfectly analogous results. But notwithstanding these remarkable facts, showing the unquestionable action of the bath on the composition of the renal excretion, no trace of the salts employed could be detected in the urine. In further experiments a limb was immersed in solution of chloride of sodium for periods varying from five to thirty minutes, then thoroughly and repeatedly washed in distilled water, and again plunged for fifteen to thirty minutes in a glass containing the same liquid. Having first ascertained that no chloride of sodium was contained in the last washings, the author determined its presence in the distilled water, in which the limb was subsequently immersed, by the abundant precipitate produced on the addition of nitrate of silver. Similar experiments were made with various salts, which showed that chloride of sodium is taken up by the skin more readily than any other.

From all the preceding facts the author concludes that the skin has the property of not only absorbing the saline constituents of the bath, but of expelling them subsequently, and that the absorption takes place most actively within from five to thirty minutes after immersion, and is coetaneous with the alteration in the constituents of the urine. As the salts held in solution by the water of the bath never enter the circulation, the author holds that they must exercise their physiological influence exclusively through the peripheral nerves of the skin.

Lehmann.—*On Diffusion through the Skin in the Bath.* Virchow, vol. xxii, p. 133.

With a view to the undecided question whether or not water is absorbed in the bath, the author experimented on his three boys, between four and eight years old. Each was placed in the water for fifteen minutes, his weight and that of the bath and its contents having been previously determined. On leaving the water he was dried with an accurately weighed towel, the greatest care being taken that not a drop should be lost. The bath, towel, and subject of observation were then again weighed. The loss by evaporation had been estimated from previous experiment. The results were as follows:—The bath had lost weight by twenty-eight grammes, but this fact was admitted to be of little value on account of the uncertainty with which the loss by evaporation could be determined and the liability to error in the weighings; the author himself admits that this error might amount to fifty grammes either way. The other results afforded no indication that the weight of the body was increased during the bath. The comparison of the quantities of urine passed during the hour preceding and that following the bath showed that the latter was somewhat greater than the former.

LEECHES.

Reports on the means employed in the Restoration of Leeches in the Prussian Military Hospitals during the year 1860. Preuss. Mil. Ztg., No. 19, 1861. Schmidt, vol. 113, p. 31.

Out of 24,132 leeches applied during the year, 18,358, or 76 per cent., were so completely restored as to be fit to be used again. Of the various methods which were tried, that of dipping the heads of the leeches in diluted vinegar, and then stripping them, was found to be by far the most successful. During the process it appeared to be of great importance to avoid touching other parts of the body with the vinegar, and to renew the liquid after each expulsion of blood. The immersion of the leech in diluted vinegar without stripping was very unsuccessful; the blood was never completely expelled, and the leeches all died. The use of flints and gravel in order to facilitate the shedding of the cuticle, and of fragments of marble (especially when river water is employed) "to prevent rapid putrefaction," are strongly recommended. It is essential that the flints and bits of marble should be frequently removed and cleansed, as otherwise they become covered with a deposit of mucus derived from the integument of the leeches. Leeches should not be reapplied after a less interval than four weeks in summer and two or three weeks in winter.

MINERAL ACIDS.

Sulphuric Acid.

SMOLER.—*Case of Poisoning by Sulphuric Acid.* Wien. Med. Ztg., No. 40, 1861. Schmidt, vol. 113, p. 34.

A servant-maid, æt. 23, swallowed a poisonous dose of sulphuric acid, from the effects of which she recovered satisfactorily under the ordinary treatment by antidotes and demulcents. But on the eighth day the patient was affected with pneumonia of the right lung, which proved fatal in forty-eight hours. The post-mortem examination revealed the following appearances:—The mucous membrane of the tongue was covered with a greenish-yellow coating, that of the fauces was greenish gray, and in the neighbourhood of the epiglottis there were, here and there, sloughings of the epithelium. Similar appearances were observed in the trachea and bronchial tubes. The lungs were moderately distended, and recent pleuritic adhesions existed on the right side. The upper lobe of the right lung was well filled with air, but contained little blood. Both the lower lobes, but particularly the lowest, exhibited red, friable masses, surrounded by serous infiltration, and the right pleura contained eight ounces of serum. Similar pathological changes were observed on the left side, but of less extent. The stomach was slate-coloured, marbled with reddish brown, and the venous network on the surface of the organ was remarkably distended, containing half-stagnant blood. Its mucous membrane was of the same colour, and so soft that it could be easily peeled off the subjacent muscular layer, which was of a greenish red. The disorganization of the membrane was confined to the greater curvature; at the pyloric and throughout the intestines no alteration was observable. On opening the cranium the pia mater was found to be gorged with blood, and there was considerable sero-purulent subarachnoid effusion.

HALDANE.—*Case of Poisoning by Sulphuric Acid.* Edin. Med. Journ., No. 80, p. 739.

J. G., æt. 40, was admitted into the Edinburgh Infirmary, at 8 p.m., with symptoms of irritant poisoning. He was then quite conscious and in great pain, but would give no information as to what drug he had taken. There were no erosions of the skin or lips, but the mucous membrane of the mouth had a whitish, bleached appearance. Death took place five hours after admission, and (as was subsequently ascertained) about nine hours after the "vitriol" was swallowed. It was preceded by gradual sinking, with occasional groans and gestures expressive of pain. The body was examined sixty hours after death. The following were the most unusual of the post-mortem appearances, which are minutely recorded in the paper:—There was no blackening of the lips or disorganization of the mucous membrane of the mouth, although both of these changes were observed in the lower two or three inches of the œsophagus and in the splenic half of the stomach. The absence of perforation was probably referable to the previous existence of food in the organ. The strength of the acid taken could not be ascertained. The author remarks that whereas in cases of poisoning by sulphuric acid the pylorus is usually so tightly constricted that the liquid does not pass in any quantity into the intestine, the whole of the lining of the jejunum had been acted on in the present instance, and had assumed a tanned or leathery appearance, which ceased abruptly seven or eight feet from the pylorus.

LEYDEN; MUNK.—*On Poisoning by Sulphuric Acid.* Virchow, vol. xxii, p. 237.

The inquiries of the authors relate to two fatal cases of poisoning by sulphuric acid, in both of which, in addition to the usually recognised effects of the poison, there was acute nephritis. During life the urine contained blood and albumen; in one case there were fibrinous casts and epithelia, and in the other cellular elements only. The microscopical examination of the kidneys after death afforded evidence of a recent inflammatory process (granular opacity and fatty degeneration of the epithelial elements, recent cleaving of the nuclei of the interstitial tissue, particularly along the course of the vessels). Both cases were of long duration, and it was observed that the quantity of albumen in the urine diminished from day to day. In order to confirm these results the authors poisoned a small greyhound with dilute sulphuric acid (1 : 4), and killed it after a few hours. The existence of an acute inflammatory process was evidenced, both by the anatomical changes which had taken place in the organs themselves and by the examination of the urine.

Nitric Acid.

ROTH.—*Case of Poisoning by Nitric Acid.* Wien. Med. Halle, vol. ii, No. 36. Schmidt, vol. 113, p. 293.

A youth, æt. 18, took an unknown quantity of aqua fortis for the purpose of committing suicide. His state a few hours afterwards was as follows:—Mucous membrane of the mouth and fauces covered with dirty-yellow sloughs; vomiting of a blackish-brown liquid; pain referred to the gullet and epigastrium; rapid, thready pulse, thirst, coldness of the extremities and collapse. Cold epithems were applied externally, and magnesia was given internally, with almond emulsion and white of eggs, but afforded little relief. The further progress of the case is not related in detail; it, however, appears that at the end of a week the patient was able to get up, and took solid food for several days. Subsequently deglutition became difficult, and was accompanied with regurgitation, and finally no food could be swallowed. He died on the fortieth day, no nourishment having been taken for fourteen days. *Autopsy* (time not stated).—Body emaciated to a skeleton, surface exhibiting sugillations, and here and there phlyctenæ. Eyes sunk, pupils dilated, lips gaping; mucous membrane of mouth and gullet covered with a grayish coating, on the removal of which scar-like streaks are brought into view. Œsophagus contracted throughout, particularly at its lower end, where it is so narrow as scarcely to allow of the passage of a crow-quill; stomach dilated, containing about sixteen ounces of greenish-yellow fluid, in which float masses of tenacious and viscous mucus. Mucous membrane beset near the cardia with stellate cicatrices, merging into each other at their edges; pylorus much thickened and contracted. The rest of the alimentary canal was empty, and its mucous membrane pale.

INORGANIC SUBSTANCES.

Phosphorus.

WAGNER.—*Contributions to the History of Poisoning by Phosphorus.* Arch. d. Heilk., vol. iii, p. 359. Schmidt, vol. 116, p. 88.

A girl of 13 took, on the 2nd of April, 1861, an undetermined quantity of phosphorus paste; this was followed by vomiting, which recurred at intervals till the fourth day, when it ceased after the free use of milk. On the 5th she was first seen by Dr. B—, when her state was as follows:—Epigastric pain; no distension or retraction of the belly; moderate pyrexia; urine depositing a considerable sediment; intelligence normal, articulation slow. Carbonate of magnesia was given internally, and cold fomentations were applied to the belly. In the afternoon the patient became drowsy, and was delirious in the night. She died on the following day; death was preceded by increased drowsiness, gradual failure and acceleration of the pulse, and loss of the power of swallowing. Vomiting had ceased, and there were no signs of spasm or paralysis. The autopsy was performed on the same day; the following appearances were recorded:—Body well nourished; cutaneous surface generally dusky, and exhibiting numerous patches of livid discoloration, in some parts distinctly jaundiced; rigor mortis absent; subcutaneous cellular tissue moderately rich in fat. Muscles well developed, muscular substance pale; numerous recent hæmorrhages between the ribs and muscles, particularly of the lower part of the chest. Cellular tissue of the anterior mediastinum markedly jaundiced; sanguinolent fluid in both pleural cavities (℥j in the right, ℥iv in the left); numerous hæmorrhages under the costal pleuræ, a few under the pulmonary; no adhesions. Lungs everywhere pervious to air, hyperæmic at bases, but containing little blood in the upper lobes; ℥j of yellowish, clear fluid in the cavity of the pericardium, under the visceral layer of which there are isolated, minute hæmorrhages. Heart normal. Measurements of liver, from side to side, eleven inches; greatest longitudinal diameter, seven inches; greatest thickness, three and a half inches; surface yellowish red, smooth; section soft, exuding an abundant slime of the same colour; acini distinct, each exhibiting at the centre streaks of bright-green colour; abundant dark fluid blood in the portal veins and their branches; hepatic veins empty. Spleen enlarged, and containing much blood. Kidneys normal. Brownish-red fluid in the stomach and upper part of the small intestine; mucous membranes normal. Numerous recent hæmorrhages in the mesentery.

Microscopic examination.—Voluntary muscular fibres (left rectus abdominis) infiltrated in various degree with fat-granules. Muscular fibres of heart (left ventricle) in a similar state of degeneration. Liver infiltrated in the highest degree with fat, most of the cells being so crowded with granules as to render their membranes and nuclei indistinguishable. Uriniferous tubules of the cortical substance of the kidney usually distended with fatty epithelial cells, but occasionally deprived of epithelium, and containing a detritus of albumen and fat-granules: tubules of the pyramids similarly altered, but in a less degree; stroma of the kidney normal. Abundant minute fat-granules in the parenchyma of the lung (lower lobes), partly free, partly contained in the epithelial cells, and partly in the interlobular cellular tissue; in the latter situation arborizations of nucleated, branched tubules (blood-vessels) were observed, which contained, along with altered blood, large numbers of fat-granules. The author draws attention to the almost universal infiltration of every tissue examined with fat, whereas this change had before been recognised only as regards the liver. He refers to forty-five cases previously recorded, in nineteen of which this lesion existed. He further conjectures that many of the instances recorded by authors of rapid death from acute steatosis of the liver or kidney, or acute jaundice, may, perhaps, be regarded as cases of acute poisoning by phosphorus, on the ground of their complete clinical and pathological analogy with cases known to be of this nature.

LEWIN.—*On the Physiological Action of Phosphorus.* Virchow, vol. xxi, p. 596. Schmidt, vol. 116, p. 40.

The experiments of Lewin were made on rabbits and frogs. His inquiries were directed to the remarkable changes in the liver and blood known to be produced by phosphorus, and to the form in which the poison enters the circulation. The microscopical examination of the blood of animals poisoned by phosphorus or by the phosphorous or hypophosphorous acids, showed that no structural alteration is produced by any of them. But the colour of the blood, as observed by the naked eye, is remarkably changed. When spread on glass plates, it is observed to possess a greenish-brown lustre, instead of the crimson hue of healthy blood, the contrast being alike perceptible whether it is viewed by transmitted light or as an opaque object. Fatty liver existed in a characteristic degree in six out of eight rabbits which had lived eight days after the administration of phosphorus. Most of the hepatic cells were filled with fine fat-granules, so that their nuclei were concealed by them and often indistinguishable, the contrast between their condition and those which remained healthy being the more easily recognised from the small number of fat-granules these cells naturally contain in the rabbit. The membranes of the diseased cells were almost imperceptible, and their normal granular contents had for the most part disappeared. In each of the six cases the liver was enlarged, this enlargement being greater in respect of width than of thickness; the margins of the organ were not rounded. The colour was variable, the surface exhibiting patches of pale yellow, especially in the neighbourhood of the portal vein, between which the natural colour prevailed. The organ contained remarkably little blood, particularly in the pale portions; it was soft, and retained for long the impression of the finger. The blood of the portal veins was dark and fluid, but the hepatic veins contained cylindrical clots. As regards the relation between the jaundice observed in poisoning by phosphorus and the alteration of the liver, the author is of opinion that the accumulation of fat in the hepatic cells compresses the neighbouring capillaries and impedes the circulation of blood; by this means the secretion of bile is interfered with, and jaundice results. With respect to the form in which phosphorus is absorbed, Lewin draws the following inference:—Inasmuch as the phosphorous and hypophosphorous acids are not poisonous, excepting in quantities much larger than could be produced by the oxidation of such doses of phosphorus as are known to be rapidly fatal, phosphorus must itself enter the circulation and act as a poison without chemical change. That this is the case is apparent from the following experiment:—A dog was fed for four days on food containing two and a half to three grains of phosphorus. On dissection, all the organs exhibited the characteristic effects of the drug, and on introducing the liver into Mitscherlich's apparatus the presence of phosphorus was strikingly demonstrated. The author is of opinion that phosphorus, being insoluble in every other constituent, is held in solution by the fat of the serum, and that it is by virtue of this fact that it exerts its toxical action, especially on the liver.

KOCH; KÖHLER.—*Case of Acute Atrophy of the Liver simulating Poisoning by Phosphorus.* Würtz. Corr. Bl., vol. xxxi, Nos. 32, 33. Schmidt, vol. 116, p. 42.

An unmarried woman, æt. 19, in the third month of pregnancy, died after an illness of forty-eight hours, characterised by rigors, thirst, fever, prostration, and collapse, with hæmorrhages from the nose and external organs of generation. A vessel containing phosphorus-paste was found in her possession, which gave rise to the suspicion of poisoning and to a medico-legal inquiry. The post-mortem examination yielded no evidence that phosphorus had been swallowed, but there were yellow atrophy of the liver and fatty degeneration of the heart and both kidneys. In commenting on this case, Professor Köhler points out the close analogy between acute atrophy of the liver and acute poisoning by phosphorus. The distinction must rest on the local action of the poison, and particularly on its tendency to promote ecchymosis and sloughing of the mucous membranes. In cases in which acute atrophy of the liver is accompanied by symptoms resembling those of toxical gastritis, the smell of phosphorus and the detection of the poison by chemical means afford the only indications for diagnosis.

Iodine.

BENEDICT.—*On the Action of Iodine and Iodide of Potassium on the Nervous System.* Wiener Ztsch., vol. xviii, p. 94. Schmidt, vol. 115, p. 284.

The following research was suggested by a remarkable case recorded by Professor Schuh, in which the injection of iodine into the sac of spina bifida was followed by sudden paralysis of the organs of respiration and circulation. The experiments, which related to the action of iodide of potassium as well as iodine, were made on frogs. The following questions were investigated:

1. By what channel is paralysis transmitted to the peripheral nerves and muscles?—To determine this, both sciatic nerves were exposed, and one of the hind legs separated from the body, the nerve remaining entire. A solution of iodide of potassium containing one part of the salt to four of water, and tinctures containing respectively one part in three and one in six of iodine, were introduced in various quantities into the subcutaneous cellular tissue. It was found that when twelve drops of the solution of iodide of potassium were injected, sensibility and contractility rapidly disappeared. In both limbs reflex action was annulled, although movements could be excited through the spinal cord. The experiment was then reversed; both sciatic nerves were exposed, and one (the left) was divided and isolated. Although the general effects of the poison were manifested, the limb of which the sciatic nerve had been divided remained unaffected. Vigorous contractions of other parts were produced by irritation of the nerves and muscles, while in the right limb no effect was observable, even in the muscles irritated. These experiments were repeated with the same results, and checked by similar experiments on frogs not under the influence of the poison.
2. At what rate and in what order does paralysis extend to the respiratory and cardiac movements, to the contractility of the muscles of the extremities, and to sensibility?—The author sought an answer to this question by comparing the effects of varying quantities of the agent. Having first ascertained by experiment that when no poison had been used the heart might be exposed for more than four hours with very slight alteration of the respiratory or cardiac movements, he repeated the observation after three drops of solution of iodide of potassium had been injected. It appeared that the muscles of respiration died much more quickly than those of the heart, and that the heart was sooner paralysed than the muscles of the extremities. When large doses were employed these relations were somewhat altered, for the action of the poison on the muscles of respiration and on those of the extremities, became much more rapid relatively to the period of cessation of the action of the heart. When tincture of iodine was substituted for iodide of potassium, the movements of circulation and respiration and the contractility of the muscles of the limbs ceased

almost simultaneously, the respiration being affected more slowly, the heart and voluntary muscles more rapidly, than when similar quantities of the salt were employed. From these and other experiments the author concludes that the action of iodine and iodide of potassium (particularly the former) is exerted more on the function of respiration than on any other; that the heart is more affected by iodine than by iodide of potassium; and that, as regards the latter, the rapidity of the effect varies directly with the dose, the variation being greatest in the time of arrest of the heart's action. Sensibility appeared to be annulled in all the experiments. It having been observed in the preceding experiments that when small doses of iodide of potassium were employed the paralysis of the respiratory movements was preceded by a certain degree of excitement, the effect of injecting the solution by a single drop at a time was next investigated. The first drop invariably accelerated the action of the heart and increased sensibility, and it was not until six drops had been injected that the normal rate of breathing was restored and the paralysing effect of the drug began to be manifested, so that a much larger dose was required to produce the same action than when the whole quantity to be used was injected at once.

The transmission of the paralysis by the nerves to the peripheral organs having thus been demonstrated, it remained to determine in what part of the nervous system the poison centres its action. With this view experiments were undertaken, which consisted in exposing the spinal cord at its upper and lower end, and applying the solution to it in drops. When the upper end of the cord was acted on, it was found that the phenomena of paralysis were induced far more rapidly than when the same quantities were injected into the cellular tissue. Muscular contractility was annulled by two drops, in two thirds of the time before required for the production of the effect even when three drops had been used; and in the one case the heart's action ceased three hours and twenty minutes sooner than in the other. The first application of the solution was attended with marked convulsions and signs of pain. The author infers from these experiments that the intensity of the action is three times as great when applied to the upper end of the cord as when injected into the cellular tissue, and that it is through this part of the nervous system that iodine and iodide of potassium, when introduced into the circulating blood, affect the organs of respiration and circulation. When the solution was applied to the lower end of the spinal cord, toxical effects were produced more slowly and with less intensity than when the same quantities were injected into the cellular tissue.

ROSENTHAL.—*On the Absorption of Iodine Compounds.* Wien. Med. Halle, vol. iii, No. 20, 1862.

The author's investigations were conducted under the superintendence of Professor Schneider. As regards the internal administration of iodide of potassium, his experiments were made on himself, the quantities taken daily being at first from four grains to a scruple. These produced increased secretion from the salivary and pituitary mucous membranes, increased secretion of urine, and improvement of the appetite. On augmenting the dose from a scruple on two successive days to ʒss and ʒj, dissolved in each experiment in ℥ij of water, a feeling of dryness and itching was experienced in the throat, with burning at the epigastrium, copious salivation, running from the nose, intense injection of the conjunctivæ, and lachrymation. Sleep was disturbed and unrefreshing, and in the morning the head felt hot, while the rest of the body shivered. The eyes were painfully sensitive to light, and the field of vision was obscured by disagreeable undulations, and there was ringing in the ears. The act of swallowing was painful and difficult, and there were redness and swelling of the soft palate and tonsils (particularly the right). The general state was marked by thirst, acceleration of the pulse (104), general depression, and anorexia. From these experiments the author infers that, in the exhibition of large doses of iodide of potassium for long periods, large quantities of water ought to be taken at the same time, either along with or between the doses. This therapeutical rule receives further support from the following observation. When the author, after a large dose of iodide of potassium, restricted to the utmost his consumption of fluids, he found that the salt could be recognised in the urine even after a lapse of forty hours. But if after the same dose an unlimited quantity of water were taken, it appeared that it was completely eliminated in the course of twenty-four hours, for after that period it could no longer be detected in the urine.

Dr. Rosenthal's researches further show that iodine is discharged by the nasal secretion, the tears, and the cerumen of the ears. In the fæces (whether liquid or normal) discharged four to seven hours after the administration of the iodide, iodine could be detected, but not in stools passed after a lapse of sixteen or twenty-four hours. As regards the absorption of iodine by the integument, the author's experiments do not confirm the prevailing opinion that iodine is absorbed in the free state only, and that in the use of ointments containing iodide of potassium absorption takes place exclusively by virtue of the action of the fatty acids in decomposing the salt and liberating the iodine. For he found that after the infriction of pure white ointment of iodide of potassium on the chest and back, the presence of iodine in the urine and saliva could be distinctly demonstrated for twenty-four hours. In order to determine whether or not iodide of potassium can be absorbed when applied to the skin in aqueous solution, the author took a series of baths in which quantities of iodide, varying from ℥ss to ℥ij were dissolved. The urine was in each experiment analysed before and after the bath, and it was invariably found that a trace of iodide could be detected during the succeeding twenty-four hours. The quantity was, however, so small, that its presence could only be demonstrated by concentrating the whole quantity passed during the period, after the addition of solution of caustic potash, then extracting the crystalline residue with absolute alcohol, and redissolving the alcoholic extract in a few drops of distilled water. In the solution thus obtained iodine was distinctly recognised in seven experiments. With reference to the absorption of iodine by the intestinal mucous membrane, it was found that an injection containing one scruple of iodide of potassium in four ounces of water produced sore throat, salivation, and coryza, in an hour or an hour and a half. Iodine could be detected in the urine and pituitary secretion in three and a half hours.

Le Brument and **Périer**.—*On the Chemical and Therapeutical Properties of Neutral Iodide of Antimony.* Bull. de Thér., vol. lxii, pp. 163, 217, and 253. Schmidt, vol. 115, p. 165.

This preparation is best obtained, according to the authors, by triturating two parts of antimony with three of iodine in a porcelain mortar with a little alcohol, until the mass, after evaporation of the alcohol, forms a reddish-yellow, inodorous powder. On subliming this product the iodide is obtained in the form of dull-red, crystalline flakes, which are very fusible and volatile. The salt is usually prescribed in doses not exceeding a tenth of a grain. When given in grain doses it produces cardialgia and vomiting, accompanied with shivering, which, however, may be checked by combining it with opium. When continued in large doses for some days the sickness ceases, but it accelerates and, at the same time, weakens the pulse, diminishes the secretion of urine, and induces profuse sweating, with increasing weakness. To these effects are sometimes added excessive restlessness, subsultus, and delirium! Notwithstanding these disagreeable symptoms, the authors regard the remedy as highly advantageous in certain cases of phthisis. When combined with a liberal diet, they find the appetite improved, the cough relieved, and the expectoration diminished under its use in small doses. It is best given in pill, with Ol. Anis. or Ol. Menth. vir.

Bryant.—*Iodide of Ammonium as a substitute for Iodide of Potassium.* Med. Times, Feb. 1st.

The iodide of ammonium has been lately used with marked success at Guy's Hospital in certain glandular affections in which iodide of potassium had failed. Five grains are given three times a day in compound infusion of gentian. Externally it is used as an ointment (ʒj to ℥j of cerate), or, dissolved in glycerine in the same proportion as a liniment.

Bromine.

Rienslagh.—*Note on the Anæsthetic Effects of Bromide of Potassium on the Mucous Membranes.* Journ. de Méd., Sept., 1862. Bull. de Thér., vol. lxiii, p. 470.

Bromide of potassium, in doses varying from fifteen to thirty grains, given in the course of an hour, has been for some time past used by M. Guersant and other surgeons for the purpose of producing anæsthesia of the fauces and soft palate. Rienslagh has found that this effect extends to the mucous membrane of the nose, and particularly to the conjunctiva, and that it possesses great advantages as a local anæsthetic in operations on the eyeball.

Alkaline Bases.

Potain.—*Case of Poisoning by Liquid Ammonia.* Journ. de Chimie Méd., vol. viii, pp. 311 and 476.

A printer, æt. 44, resolutely swallowed more than three ounces of liquid ammonia, with the intention of committing suicide, on the morning of September 8th, 1861. He immediately experienced pain and suffocating constriction of the throat, intolerable tearing pain in the stomach, and vomiting. Soon he became unconscious, and was brought cold and collapsed to the hospital. The treatment consisted in restoring the temperature of the body, and administering drinks acidulated with acetic acid. On the next day the skin was warm, the pulse small and frequent. He suffered less constantly, but every attempt to swallow liquids was attended with great pain and followed by vomiting; the vomited matters contained blood, and in the course of the day there were abundant liquid stools, also containing altered blood. Leeches were applied to the epigastrium, and he was fed on milk and albuminous liquids exclusively. Blood was passed by stool until the eighth day, and the other symptoms continued without abatement, while the patient became weaker and emaciated rapidly. On the ninth day an erysipelas commenced on each arm, which made rapid progress. The case terminated fatally on the evening of the eleventh day. The following were the most remarkable lesions observed at the autopsy:—The mucous membrane of the pharynx was red and swollen; that of the œsophagus was of a dirty-gray colour, scattered over with ulcerations. The mucous membrane of the stomach was also softened and disorganized, and in the greater curvature was found a large, eroded patch. The liver and spleen were softened, and the mesenteric glands were enlarged and disintegrated. As regards the respiratory organs, the arytenoid cartilages were swollen and injected, and the epiglottis ulcerated, but the larynx was unaltered. The parenchyma of the lungs was friable and engorged with blood, and both pleuræ contained much sanguinolent serum. The kidneys were enlarged, congested, and soft. Many of the tubules of the cortical substance were found to have lost their epithelium. In commenting on the above facts, the author refers to three other cases of poisoning by ammonia, which he has found to be the only instances on record in which the symptoms have resulted from the actual introduction of ammonia into the stomach, viz., those of Chapplain, Rullié, and Fonssagrives, and draws attention to the occurrence in all of them of profuse gastro-intestinal hæmorrhage. This result of the poison he attributes not merely to its caustic action, but also to its power of arresting the coagulation of the blood, in support of which opinion he states that in two of the cases the preparation swallowed was very dilute, containing only one tenth of caustic ammonia. In his own case, and in one of the others, the cavities of the heart contained soft coagula; but in that of Chapplain, in which death took place in six hours, and was preceded by the most profuse hæmorrhage, the blood was found to be entirely liquid.

PAASCH.—*On the Inhalation of Sal Ammoniac.* Preuss. Ver. Ztg., No. 16, 1862.

In order to obtain the expectorant action of sal ammoniac by inhalation, Dr. Paasch has adopted two methods. One consists simply in heating the salt in a saucer over a spirit-lamp, the other in combining the vapours of hydrochloric acid and ammonia in the air. The latter he finds to be much the most convenient and effectual. A drachm of strong liquor ammoniæ is poured into a saucer, in which is placed a watch-glass containing about half as much concentrated hydrochloric acid. By this method sal ammoniac fumes are diffused along with those of ammonia, the presence of which last are thought rather to aid than interfere with the beneficial action of the salt as an expectorant. In acute bronchitis the sal ammoniac may be advantageously inhaled along with the vapour of warm water.

MARTIUS.—*On the Therapeutic Use of Saltpetre-paper.* Memorab., vol. vii, part 2, 1862.

According to Martius, the vapour produced by the burning of the *charta nitrata* is alkaline, has a violet colour and soapy taste. In 100 volumes of air in which the paper had been burnt he found 52·7 volumes of carbonic acid gas, 41·1 of nitrogen, 3·9 of carbonic oxide, 1·2 of hydrogen, and ·5 of oxygen. He attributes the therapeutical action observed, not to any of these gases, but to the "finely divided potash and carbonate of potash" suspended in the fumes.

Zinc.

BARTELS.—*On the Therapeutical Application of Acetate of Zinc.* Pr. Ver. Ztg., vol. iv, parts 3 and 4. Schmidt, vol. 114, p. 19.

Holding with Rademacher, that the action of zinc is analogous to that of opium in every respect excepting in its not affecting the vascular system, the author has employed the acetate in all cerebral affections in which the brain is over-excited without the existence of hyperæmia, as, for example, in sleeplessness, mental anxiety or over-exertion, delirium nervosum, traumaticum and ebriosum, and in the delirium of typhus and the acute exanthemata. He gives two grains every two hours.

Iron.

POKROWSKY.—*Researches on the action of the Preparations of Iron.* Virch., vol. xxii, p. 476.

The author had the opportunity of investigating the action of chalybeate preparations on the metamorphosis of tissue in numerous patients under treatment in the Hospital at St. Petersburg. With this view he determined daily in each case the temperature of the body, the quantity of food, of excrement, and of urine, of which last the specific gravity, chlorides, and urea, were also investigated. From these experiments the author deduced the following results:—During the administration of preparations of iron the temperature of the body rises. This elevation occasionally takes place very shortly (in one case within five hours) after the commencement of the treatment. It is observable as well in cases in which the temperature is abnormally depressed as in others. After the maximum effect of any given dose has been attained, successive augmentations of temperature may be produced by successive additions to the quantity given, by which means in one case a rise of 1° C. was obtained. Several days after the increase of temperature, it is found that the pulse increases in frequency. *Pari passu* with the increase of temperature, the daily excretion of urea is augmented, but it is not until some days later that the body gains weight, the pulse becomes somewhat accelerated. In the mean time the body gains weight, and other signs of increased nutrition present themselves. The author found that these actions were exercised in an equal degree by all the preparations of iron, so that one could be substituted for another without any difference in the result.

In commenting on these results, the author observes that, considering the effect of chalybeates on the temperature of the body and the excretion of urea, and the fact (of which he records several examples) that dropsical effusions often disappear during their use, a nutritive action must be conceded to them. What is the mode of this action is a question of more uncertainty. Its explanation cannot lie in the increase either of the mass of blood or of the corpuscles, for such changes could only take place gradually. Nor can it be attributed to the acceleration of the pulse, for it begins at a period antecedent to that at which this acceleration is first observed. The function of respiration is wholly unaffected by steel preparations, and can therefore afford no solution to the question.

The author regards it as most probable that iron acts mainly on the contractile elements of the capillaries, by which the degree of tension of the walls of these vessels is controlled. By this agency he thinks that it governs the diffusion of material between the capillary circulation and the elements of the surrounding living tissues.

Arsenic.

HERAPATH.—*On the Arsenical Impurities in Medicinal Bismuth, with a mode of Purification.* Lancet, Dec. 13th.

The author has found in various specimens of insoluble nitrate and carbonate of bismuth, proportions of arsenic varying from $\frac{1}{1000}$ to $\frac{1}{433}$. By boiling either preparation with solution of caustic soda or potash, the arsenic may readily be removed. Although the proportion is too minute to affect the therapeutic value of the drug, the adulteration is of great importance in relation to cases of suspected chronic poisoning by arsenic, in which bismuth is so likely to be used as a remedy.

WILKS.—*Poisoning by half an ounce of Arsenic; Death; ecchymosed spots in the interior of the heart.* Med. Times, Jan. 18th.

Dr. Wilks has observed endocardiac ecchymosis in all the cases of arsenical poisoning which have come under his notice at Guy's Hospital. In the case related, this appearance was observed in a very marked degree. About half of the internal surface of the left ventricle was thus affected. There was a large, purple patch on the septum, another immediately beneath the mitral valve, and the muscular columns were spotted. The other appearances were characteristic of poisoning by arsenious acid.

FERGUS.—*On Arsenical Poisoning.* Lancet, June 7th.

The author relates three cases in which general loss of health and "depression of the vital powers" appeared to result from the occupation of rooms papered with arsenical hangings.

Silver.

NICKLÈS.—*On the Medico-legal Detection of Silver.* Journ. de Pharm., vol. xli, p. 277.

With reference to an accusation of the crime of rape committed on a child, certain stains on the linen of the accused were submitted to the author for examination, of which some were ascertained to be spermatic, while others contained blood and pus. Besides these there were black spots, the chemical reactions of which afforded proof of the presence of silver. In order to render the proof obvious to the jury, the author steeped these stains in a solution of cyanide of potassium, in which he plunged the two poles of an extremely feeble galvanic arrangement, in which the positive metal was zinc immersed in water; the negative, copper in sulphate of copper. The negative pole consisted of thin copper wire, the positive of a pencil of plumbago, care being taken that the current should be so weak that no hydrogen should be disengaged at the negative pole, that the wire attached to the graphite should not touch the solution, and that the bulk of the solution should be as small as possible. In a few moments the end of the wire became coated with silver.

JELLINCK.—*Poisoning by Petroleum.* Wien. Med. Halle, vol. ii, No. 44. Schmidt, vol. 113, p. 295.

A peasant woman who had suffered from repeated attacks of intermittent fever, and had taken a variety of remedies without medical advice, was induced to swallow a table-spoonful of unrectified petroleum. Shortly afterwards she was affected with severe epigastric pain, bloody and biliary vomiting, and profuse diarrhœa. She was first seen by Dr. Jellinck on the following day, when she was in a state of profound collapse, with sunken features, cold perspirations, dry and coated tongue, and distressing thirst, her whole aspect recalling that of a patient suffering from cholera. The swallowing of fluids was followed immediately by vomiting or retching. There was extreme abdominal tenderness and great restlessness, the patient rolling from side to side, with occasional cries of pain; the watery stools contained shreds of mucus and blood; the urine was scanty, and passed with much pain. In spite of these unfavorable symptoms, the patient recovered under a treatment which consisted in the application of leeches and fomentations, and the administration of albuminous and oily liquids by the mouth and rectum.

ORGANIC ACIDS.

Oxalic Acid.

COWAN.—*Report of the Trial of Mary Struth for Poisoning with Oxalic Acid.* Edin. Med. Journ., vol. lxxxv, p. 93.

On the 2nd of June, 1862, Mary Struth was charged in the High Court of Justiciary, Edinburgh, for administering to her father, on various occasions from the 5th of December to the 11th of January, salts of sorrel or some other poison. The main facts of the case were as follows:—A frail old man of 75, who resided with his daughter in Kincardine, suffered during the period in question from abdominal sickness, and great weakness, in respect to which symptoms it appeared that the vomiting came on an hour after taking medicine administered by the daughter without medical advice. Towards the end of the period he became unwilling to take any more. The efforts the accused made to press it upon him aroused suspicion among the neighbours, who thereupon gave information to the Inspector of Poor, who found a cup which was proved to contain salts of sorrel by the bedside of the deceased. He was then removed and placed under medical care; the sickness ceased, and he appeared to rally, but afterwards gradually sank. Death occurred on the fifteenth day after his removal. It was further proved that on the 28th of December the prisoner had administered to her father a weak solution of sugar of lead in porter.

At the post-mortem examination it was found that there was congestion of the gastric and intestinal mucous membranes, especially of the ilium, "a large portion of which was in a state of approaching sphacelus," its peritoneal investment being dark and friable. Minute traces of lead were detected by Professor Maclagan in the liver, spleen, and intestinal contents, but no indication of any other poison. In charging the jury, the Lord Justice-General directed them that, admitting the salts of sorrel to have been the cause of death, it must have been given either in a single dose on the day on which it was found in the prisoner's possession, or at various periods in a succession of doses. His Lordship pointed out that neither of these hypotheses was proved, for "no salt of sorrel was traced to the prisoner till January 11th, and it was in evidence that even if they came to the conclusion that, salts of sorrel had been administered, the death of the deceased should have resulted quicker, if caused by that dose. To make out a case of chronic poisoning, the Crown should have proved the continuous possession of the poison by the prisoner."

ALKALOIDS.

V. Uslar and Erdmann.—*On the Detection of the Alkaloids.* Ann. d. Chem. u. Pharm., vol. cxx, pp. 121—188.

The extreme difficulty and tediousness of the methods at present in use for the separation of a minute quantity of a poisonous vegetable base from a large quantity of other organic substances, have led the authors to devise a plan by which the research may be materially shortened without lessening its exactitude. Their process is founded upon the fact that the free alkaloids are readily soluble in pure, and particularly in boiling, amylic alcohol, which retains them in solution even in the presence of large quantities of water, provided the liquids be alkaline or neutral; and that the hydrochlorates of the alkaloids are almost insoluble in this menstruum, so that amylic alcohol holding a free alkaloid in solution is deprived of it almost entirely when agitated with water acidulated with hydrochloric acid. The method recommended is as follows:—The mass is to be first diluted to the consistence of a thin gruel with water, acidulated with hydrochloric acid, and then digested for one or two hours at a temperature of about 80° C. The liquid must then be strained through a wetted linen cloth, and the residue extracted with hot, acidulated water. After neutralizing with ammonia, it is to be evaporated to dryness in the water bath. The dry residue must now be treated repeatedly with hot amylic alcohol, and the solution filtered; the filtrate is to be agitated in a cylindrical vessel with boiling water acidulated with hydrochloric acid, from which, on standing, the alcohol (which has been deprived of the alkaloid it contained) may be separated with a pipette, and the process repeated as often as necessary. The acid fluid must now be concentrated, saturated with ammonia, and again treated with hot amylic alcohol, which, in its turn, separates the free alkaloid from the watery liquid. On evaporating this solution the alkaloid is obtained in a state of sufficient purity to exhibit its characteristic reactions. The authors found that one grain of morphia dissolved in three or four pounds of putrid meat could be almost entirely recovered by this method. Similar experiments were made with strychnine, nicotine, and coniine, the results being equally satisfactory. One of the authors (Erdmann) has also directed his attention to the improvement of the existing methods of discriminating between the several alkaloids after they have been separated in a state of comparative purity, the main object of the inquiry being to devise a series of tests capable of being applied successively to the same quantity of alkaloid. The importance of this is obvious when it is remembered how small the quantities frequently are which must be operated on in toxicological inquiries. The process proposed is founded on the so-called "colour-tests" exclusively.

Aconitine.

LIÉGEOIS; HOTTOT.—*On the Action of Aconitine on the Animal Economy,* Journ. de Physiol., vol. iv, p. 520.

The author, having found the methods hitherto proposed for the separation of this alkaloid unsatisfactory, has devised the following process, by which the preparations in his experiments were obtained. Powdered aconite root is macerated in alcohol of 85 per cent., slightly acidulated with sulphuric acid, and the product heated over the water bath. Thereupon the liquid is allowed to cool, after which as much of the oil which floats on the surface as can be skimmed off is removed. The liquid is then evaporated to the consistence of a syrup, and agitated with ether, by decanting which the remainder of the oil is got rid of. The residue must now be treated with water and precipitated with magnesia in excess, and again repeatedly agitated with its weight of ether. The ether, on decantation and spontaneous evaporation, yields the alkaloid in an impure state. By dissolving it in dilute sulphuric acid, decolorising with animal charcoal, and precipitating with ammonia, again dissolving and again precipitating, it is obtained in a state of complete purity; the aconitine thus prepared contains 25 per cent. of water, of which it may be deprived by heating it to 85° C., at which temperature it fuses. At higher temperatures it is decomposed without subliming, ammonia being disengaged. It is scarcely soluble in water, but dissolves very readily in alcohol, ether, benzine, and chloroform. It cannot be crystallised, in which respect it differs remarkably from the preparation known as Morson's aconitine, which, in the opinion of the authors, is another body, containing very little of the active principle.

The conclusions of the authors as to the *actions* of aconitine are based on a large number of experiments, of which frogs, rabbits, and guinea-pigs were the subjects. As regards the *mode of absorption* of aconitine, the results of their observations were as follows:

When the alkaloid was applied (in frogs) to the uninjured skin of the back, toxical phenomena did not appear until seventeen minutes had elapsed; when from two to nine mgrm. were inserted into the subcutaneous cellular tissue, the first signs of poisonous action occurred in periods which varied from four minutes (guinea-pig) to eight minutes (rabbit). When aconitine, suspended in water, was placed on the cornea of a rabbit, no effect was observable excepting contraction of the pupil of the eye into which it was introduced; but the aqueous humour from the same eye, when introduced into the cellular tissue of a frog, produced death in an hour. When swallowed in quantities of from one sixth to one third of a grain, toxical effects supervened in from four to ten minutes in guinea-pigs and in four or five minutes in rabbits, whence it appears that aconitine is absorbed from the alimentary canal much more rapidly than curare or strychnine. The alkaloid is regarded by the authors as a narcotico-acrid poison, which exercises its stimulant action mainly on the mucous membranes. In this respect they differ from those observers who have regarded the narcotic and acrid actions of the root as dependent on different immediate principles, and consider that both are possessed by the alkaloid, even in its purest state. Under the influence of aconitine, the great vital functions are arrested in the following order:—respiratory movements, general sensibility, reflex action, voluntary motion. In frogs "paralysis of the lungs" is always the earliest sign of poisoning; the respiratory movements become feeble; and as soon as breathing has entirely ceased, two deep impressions may be noticed, one on each side of the belly, which imply that the contractibility of the lungs is annihilated. In rabbits and in guinea-pigs the function of respiration is also first interfered with. The animal suddenly becomes still and the nostrils dilate; in another moment it tosses itself about, while the respiration becomes difficult and frequent, and then suddenly ceases.

These phenomena may be variously explained. They may be attributed to the action of the poison on the peripheral motor fibres of the nerves, a view which is rendered untenable by the fact that in frogs poisoned by aconitine the limbs contract vigorously when the nerves are excited by a galvanic current; or it may be supposed that the muscles are deprived of their irritability. As all the muscles contract strongly under the galvanic stimulus, this hypothesis is also inadmissible; so that the only possible assumption appears to be that the medulla oblongata is the seat of toxical action, a view which is further confirmed by the fact that the cessation of respiratory movement is immediately followed by loss of sensibility, which may also be regarded as of central origin—that is, dependent on impairment of the functions of the medulla, not of the peripheral nerves. To determine this point, the following series of experiments were made.

In the first series the aorta was tied above its bifurcation; general insensibility was produced, just as if the circulation had not been interfered with.

In a second series the ligature was applied at a short distance from the heart, so as to delay the action of the poison on the spinal cord; the supervention of anæsthesia was correspondingly delayed, and reflex movement continued for a longer period. In all the experiments the animal retained the power of voluntary movement, from which the authors conclude that motility is at first unimpaired, and that all the effects observed depend upon diminished sensibility.

It being admitted that the centre of sensibility is paralysed, it remains to be inquired whether the effect extends to the peripheral afferent nerves. The following experiment is regarded as affording a negative answer to the question. Sulphate of strychnine was inserted beneath the skin of a frog which had been rendered insensible by aconitine. On touching the skin tetanic spasms were induced, just as in an animal not previously poisoned by aconite. As in this experiment impressions must have been transmitted by the sensory nerves to the spinal cord, the authors argue that their functions could not have been affected.

The action of aconitine on the circulation (in frogs) was marked by acceleration of the pulse (from 60 to 120), which was soon followed by a very rapid retardation (to 40 or even 30), the contractions becoming at the same time irregular. The authors regard this effect as due (at all events, in part) to the direct action of the poison on the heart. It has been already stated that the arrest of voluntary movement is subsequent to the effects which have been already described. The manner in which this takes place is illustrated by the following experiments:

A frog was poisoned by the insertion of aconitine beneath the skin; in five minutes respiratory movements had entirely ceased. On releasing the animal it remained motionless; a minute after, slight retraction of the feet was induced by pinching; two minutes later, the animal jumped three times forward. Subsequently, reflex movements were again induced by pinching the toes. Twenty-five minutes after the introduction of the alkaloid, when the contractions of the heart had almost ceased, the animal again made a leap forward. From this and similar observations the authors infer that the apparent paralysis of motion is entirely dependent on the loss of sensibility, for not only are reflex muscular contractions still possible, but the power of executing combined movements under the influence of the will is retained. The voluntary character of these movements is shown by the fact that, in making them, the animal avoids obstacles, and that they cease if the eyes are destroyed. The loss of the power of voluntary motion is dependent exclusively on the action of the poison on the "centres of motility," not on the paralysis of the motor nerves or conducting fibres of the spinal cord, for these retain their excitability long after voluntary movements have ceased.

Another series of experiments, which resembled those performed by Kölliker and Bernard for a similar purpose in their investigations of the actions of curare, were undertaken to determine whether, at a later period, the motor nerves are not themselves eventually paralysed, and whether (if this be the case) the trunks of the nerves or the fibres of distribution are first or principally affected. They consisted, for the most part, in observing the latest modification of motility produced by aconitine in frogs. It was clearly shown that, a quarter of an hour after the complete extinction of voluntary movement, the nerve-trunks could no longer be excited by the stimulus of electricity. In frogs in which the administration of the alkaloid had been preceded by deligation of the femoral artery on one side, it was further observed that, even after the lapse of two and a half hours, that part of the sciatic nerve which was beyond the ligature still retained its irritability. On the other hand, that portion of the nerve to which the circulating blood still had access was found to be entirely paralysed in an hour, but retained its irritability for a much longer period than the peripheral nerves of the opposite limb. It thus appeared that the poison exercises its action first on the peripheral fibres and subsequently on the nerve-trunks, in the same manner as has been shown to be the case with curare. This is attributed by the authors primarily to the anatomical fact that, in the primitive fibrils of the ultimate branches of the nerves, the axis-cylinder is not protected by any investment, whereas in the trunks each fibril consists of a tube in which the axis-cylinder is enclosed, which structure is further withdrawn from the influence of the circulating blood by the neurilemma. They also regard the greater vascularity of the extremities of the nerves as being conducive to the result.

PRATT; VACHELL.—*Case of Poisoning by Aconite.* Brit. Med. Journ., December 13th.

A male adult (age not stated) is said to have taken two pills, containing not more than four grains of extract of aconite, dispensed by mistake instead of extract of wormwood. Four hours afterwards he was found by Mr. Pratt in the following condition:—he lay on his back, with his thighs drawn up and his arms in constant jactitation. On seeing the doctor he jumped up from his bed, and complained of pains in the legs, and alternating sensations of cold and heat in the tongue. His countenance was expressive of great agony, and he said he was very ill. Death took place shortly after Mr. Pratt's arrival; it was preceded by failure of the pulse, gasping respiration, and dilated, insensible pupils. A few minutes before he died he was able to ask for a glass of cold water, and drink it without assistance. The body was examined by Dr. Vachell. The only post-mortem appearance was that of excessive congestion of the mucous membrane of the stomach, duodenum, and part of the jejunum. The stomach was nearly empty, containing only a small quantity of bloody fluid.

Morphine.

DUCHEK.—*On a case of poisoning by Opium.* Wien. Wochnbl., vol. xvii, No. 43. Schmidt, vol. 113, p. 165.

The peculiarity of this case lay in its progress and duration. While in general, the symptoms of poisoning by opium do not last more than forty-eight hours, here they continued for five days. The excitement which is usually associated with the first stage was entirely absent, and the intense depression of the second stage was accompanied towards the close by spasm and delirium. The pupil was not, as usual, insensible to light, and the sensibility of the skin was comparatively unaffected.

A healthy man, æt. 24, who had been seen apparently well half an hour before, was found unconscious in his room. He was immediately bled by a neighbouring practitioner, who mistook the case for apoplexy. Next day, on admission into the hospital, he was still unconscious, and could not be roused; the surface was warm, moist, and pale; the lips, tips of the fingers and toes, bluish; the pulse frequent; the respiration sighing, slow, and irregular; the eyeballs everted, the pupils contracted and sluggish. There were occasionally carpopedal spasms, and urine was passed unconsciously. The further progress of the case was as follows:

Third day.—Slight remission of most of the symptoms; the patient could walk a few steps, and, when roused by questions, asked in a loud voice, answered slowly, but often correctly; immediately afterwards he fell back into the previous state of somnolency. Fourth day.—In the night the stupor increased, but again remitted towards morning. On auscultation, the breath-sound was found to be accompanied universally with loud, mucous *râles.* No impairment of sensibility, paralysis, or spasm. Anorexia, thirst, retention of urine; 2190 cubic centimetres of urine were withdrawn by the catheter in twenty-four hours, and were found to contain no morphia. Towards evening the patient became perfectly insensible; the cyanosis increased; the breathing became irregular, difficult, and frequent; the moist *râles* louder and more intense, so that they could be felt over the greater part of the chest; pulse 100, intermittent, and small; there were occasional spasms of the lower limbs. Fifth day.—In the morning the patient again improved, but towards afternoon relapsed, and became furiously delirious; at night consciousness partially returned, and he complained only of pain in the chest and dyspnœa. After a few hours of natural sleep he woke (sixth day) completely sensible; and although there was again a partial relapse towards evening, all the symptoms rapidly disappeared, and on the fifteenth day he was convalescent, and soon after left the hospital, the only symptoms of which he complained being referable to the intense bronchial catarrh from which he had suffered. The poison had been taken in the form of laudanum, but the quantity could not be ascertained.

LEE.—*On the Antagonistic Effects of Opium and the Mydriatics.* (American Journ. of Med. Sc.) Pharmac., vol. iv, p. 80.

Dr. Lee relates two cases in which opium and belladonna respectively were severally used as antidotes against each other. In the first case one drachm of a concentrated extract of belladonna, intended for external use, was given by mistake to a child of six years. The usual symptoms of the toxical action of the drug rapidly ensued, and, in the absence of any means of evacuating the stomach, twenty drops of laudanum were immediately given by the mouth, and the same quantity by the rectum. The dose by the mouth was repeated every half hour, until 120 drops had been given. After the third dose the pupils began to contract strongly, the purple flush of the face passed off, and in three hours the child was well. In the second case a child, aged two years, swallowed an unknown quantity of laudanum. The skin was pale, cold, and clammy; the pulse slow and weak; the breathing slow and laboured; the pupils were excessively contracted; the coma was profound. Tincture of belladonna was given in doses of fifteen minims, repeated every twenty minutes until four doses had been taken. After the second dose the temperature of the skin increased, after the third the child recovered consciousness, and in two hours was almost well. In concluding his paper, the author remarks on the importance of the indications for the therapeutic use of belladonna and opium in disease which are afforded by the condition of the pupil.

ATROPINE.

BOTKIN.—*On the Physiological Action of Sulphate of Atropine.* Virchow, vol. xxiv, p. 83.

In the following experiments a concentrated solution of sulphate of atropine in water was employed. Five minutes after the injection of this solution beneath the skin of the back of a frog, the extremities were paralysed, being unaffected either by pinching or by the application of strong acetic acid. Reflex contractions, however, were observable until eight minutes after the injection, when they entirely ceased. No effect whatever was produced by the application of the electrodes, either of the constant or the interrupted current, to the nerves, but by the direct application of the latter the muscles were tetanized. It thus appeared that sulphate of atropine has the property of annihilating the excitability of the nerves, but leaves the muscles for a time intact. The author next inquired in what part of the nervous system (centre or periphery) the poison principally exerts its action. With a view to the solution of this question, the same experiment was repeated, with this difference, that the femoral artery of one side was previously tied. In a few minutes the limb not operated upon was half paralysed, while the other retained its normal sensibility and motility. Until fifteen minutes after the injection it was observed that contractions could be produced in the limb in which the circulation had been arrested, by irritating the poisoned limb. At a later period no such effect resulted, although direct irritation of the unparalysed limb, either by pinching or otherwise, at once caused contractions of its muscles. The irritation of the sciatic nerve of the paralysed limb by the interrupted current produced no contractions in the corresponding muscles, but the muscles of the unparalysed limb reacted strongly under the same stimulus. The prepared gastrocnemii of both legs were then placed in the same direction on Meissner's zinc electrodes,* and subjected in succession to an interrupted current, whereupon it appeared that the muscles of the unparalysed leg contracted more vigorously than the other. From the preceding facts the author concludes that the sulphate of atropine acts on the nerves through the circulation, no toxical effect being recognisable in a limb to which the access of blood is prevented by the deligation of the artery. From the fact that at first the muscles of the unparalysed limb react to stimuli applied to the paralysed, he infers that the motor nerves are affected at an earlier stage than those of sensation. The muscles of the unparalysed are obviously more irritable than those of the opposite limb. As this effect might be regarded as a mere consequence of the annihilation of the excitability of the nerves, the author undertook some further experiments, with a view, if possible, to eliminate this source of uncertainty and determine whether or not this result depends exclusively on an action of the poison on the muscle itself. This experiment was a repetition of the former, with the addition that the excitability of the nerve of the limb in which the artery had been tied, was first exhausted by subjecting it to the action of a constant ascending current (in the same manner as in Kühne's experiments on curare). The result of this experiment led the author to conclude that, under the influence of atropine, the irritability of the muscles is impaired as well as that of the nerves, but at a later stage of the process and in an inconsiderable degree.

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* These consist of a couple of plates of amalgamated zinc, fixed at a sufficient distance from each other on a plate of glass. Each is covered with two layers of paper; of these, the lower is steeped in solution of sulphate of zinc; the upper, on which the muscle to be tested rests, in solution of albumen.—ED.

The action of sulphate of atropine on dogs, rabbits and other mammalia resembles that observed in frogs; the excitability of the nerves is destroyed, but that of the muscles remains unchanged. Its influence on the cardiac movements differs in the two classes of animals—in the frog the heart's contractions are invariably retarded, and its cavities distended with blood; in mammalia the pulse becomes more rapid, but loses strength, and the arterial pressure is markedly diminished. In either case diminution of the force of the contractions is the most important of the results attributable to the action of the alkaloid on the heart.

Daturine.

JOBERT (DE LAMBALLE).—*On the Employment of Daturine as a Mydriatic.* Bull. de Thér., vol. lxii, p. 138.

According to the author, daturine is preferable to atropine, as being three times as active, as giving no pain when introduced into the eye, as not producing haziness of vision, and as having a more lasting effect.

FLÖGEL.—*Poisoning by the Tincture of Seeds of Stramonium.* Wien. Med. Halle, vol. 2, No. 42. Schmidt, vol. 114, p. 23.

A sergeant, æt. 61, who had long suffered from cramps, steeped about half a pint of stramonium seeds in a pint of brandy, and took about an eighth part of the liquid at bedtime. After sleeping restlessly, he woke about two in the morning, with twitchings of the extremities, notwithstanding which he repeated his dose, and gave similar quantities to four soldiers suffering from granular conjunctivitis. All four exhibited similar symptoms,—the hands and feet were in constant tremulous movement, the countenance flushed, the expression open, the eyes flashing, the pupils excessively dilated and insensible to light, the pulse accelerated and weak, the skin hot. The sergeant, who had taken the largest quantity, answered questions incoherently and inarticulately, and two of the patients laughed immoderately. All, however, were completely conscious and able to give an account of themselves. After the free action of emetics and purgatives they all recovered. These cases were peculiar in the absence of the erotic delirium and consecutive stupor which are usually observed. As regards the dilation of the pupil, it was noted that the "tetanized condition of the iris" lasted more than forty-eight hours, and was more marked in those who were otherwise least affected by the poison.

Nicotine.

MORIN.—*Medico-legal Researches on the existence of Nicotine in the Viscera of a Man addicted to the use of Tobacco.* Journ. de Chim., vol. viii, p. 265.

With a view to determine whether the immoderate use of tobacco is traceable in the economy after death, the author examined the lungs and liver of a man aged seventy, who had for many years taken snuff. The organs in question were minutely comminuted (by chopping and pounding with glass in a mortar), treated for some days with distilled water, and acidulated feebly with sulphuric acid (lungs), or oxalic acid (liver). The liquids were then filtered through paper free from lime, and the filtrate boiled to one third of its volume, during which process flocculi were deposited. After again filtering, each liquid was treated with absolute alcohol, which produced further precipitation. The alcoholic liquor was then evaporated, and the residue treated with a slight excess of potash. On cooling, it was agitated with ether, and after some hours the ethereal solution was decanted and evaporated *in vacuo*. The result exhibited all the reactions of nicotine.

Strychnine.

DURIAU.—*Clinical and Medico-legal Study on Poisoning by Strychnia.* Ann. d'Hyg., vol. xvii, p. 28.

A single woman, æt. 38, suffering from diphtheritic paralysis of the lower limbs, was treated for some time with sulphate of strychnia, in doses of two milligrammes daily, in pill. By mistake, the druggist sent two pills, each containing a centigramme ($=\frac{1}{6}$ grain), one of which was taken about half-past seven a.m. A quarter of an hour afterwards the patient, who was at breakfast, suddenly let fall the cup she held in her hand, became giddy, lost consciousness, and became convulsed. In half an hour M. Duriau found her in the following condition:—Face congested, without expression of suffering; eyelids closed, eyeballs distorted, with the irides concealed under the orbital arches, *pupils contracted;* no trismus; rigidity of the muscles attached to the hyoid bone, and of those of the back of the neck; clonic convulsions of the limbs, which were so rapid and frequent that they appeared continuous. Each paroxysm lasted about three minutes, and in the intervals there were general rigidity and inversion of the feet. The paroxysm began with shivering, similar to that which precedes the accession of fever, affecting first the arms, then the legs, the muscles of the trunk, and pharynx. The skin was hot and covered with perspiration, and the slightest touch occasioned convulsion. The pulsations were so rapid that they could not be counted, the pulse hard and full (150). The breathing was short and hurried (40 per minute); no respiratory murmur could be heard on auscultation.

Attempts were made to introduce liquids into the mouth, but invariably produced general convulsions, in which it was observed that the constrictors of the pharynx were first affected. The patient was then bled to sixteen ounces, after which (at eleven o'clock) the face was less congested, but the convulsions were equally intense; sinapisms applied to the lower limbs increased the spasms. About six or seven o'clock the paroxysms became somewhat less violent. On the next day fifteen leeches were applied to the mastoid processes, and injections of wine and beef tea were given alternately. Towards evening the patient was in a comatose condition, which continued to the middle of the following day. After this she gradually recovered consciousness, but began to complain of a sensation of burning, extending from the pharynx to the epigastrium, which was accompanied with complete anorexia and sickness. The intolerance of food lasted for six weeks, during which the diet consisted of milk and bouillon only. As soon as the convulsions had ceased it was found that all the muscles were flaccid, a condition which increased for several weeks after the accident, and was followed by marked muscular atrophy of the affected part. At the end of eleven months the patient was still almost helpless.

The exceptional facts in this case were the contraction of the pupil, the loss of consciousness, the long duration of the symptoms, the signs of gastro-enteric irritation, and the consequent paralysis.

REESE.—*On the Detection of Strychnia as a Poison, and on the influence of Morphia in disguising the usual Colour-test.* Chem. News, June 7th. [From the American Journal of Pharmacy.]

A man was recently indicted in Pennsylvania for the murder of his wife by the administration of strychnine. The body was exhumed for chemical examination six weeks after death, and the organs were placed in the hands of the author, who entirely failed to detect any evidence of the presence of the alkaloid. The deceased had taken shortly before her death a quarter of a grain of morphine, and the question arose whether or not its presence in the liquids of the stomach had so disguised the reactions of strychnine as to render them indistinguishable. To determine this question a series of experiments were made, from which it clearly appeared that strychnine was not discoverable "in an organic liquid when morphia is in excess, and barely discoverable when in equal quantity." Another series of experiments consisted in the administration of strychnine and morphine in varying proportions to animals. In these cases the reactions of strychnine were invariably suppressed, although in animals poisoned by the same doses without morphine the strychnine could be readily detected. The accused was convicted, and eventually confessed his crime.

THOMAS.—*On the Colour Tests of Strychnia, as modified by the presence of Morphia.* Chem. News, June 21st.

With the view of determining the important question whether the property of morphine, of marking the presence of strychnine, as regards the action of the colour tests, in solutions in which it happens to be present, is dependent on decomposition of the latter, Professor Thomas has made numerous experiments. He concludes from them "that strychnia in minute quantities can be recovered from organic mixtures, notwithstanding the presence of three times its weight of sulphate of morphia."

HORSLEY.—*On the apparent difficulty of detecting Strychnia in presence of Morphia; discovery of a more powerful Reagent for Strychnia (Nitroprusside of Sodium).* Chem. News, June 21st.

A fragment of nitroprusside of sodium was introduced into a solution of one grain of strychnine in 100,000 of water, and agitated till dissolved. Of this mixture one drop was let fall into a small capsule, and dried at steam heat. On cooling, the oxidation colours were developed by drawing across the spot a rod dipped in sulphuric acid. This test is said to be more than thirty times as delicate as the bichromate of potash test, and to be applicable in presence of large proportions of morphine!

WILMOT.—*Poisoning by Strychnine.* Med. Times, March 8th.

A girl, æt. 18, a general servant, who had just been discharged by her master on account of pilfering, bought sixpennyworth of vermin poison at a druggist's at Tunbridge Wells. She retired to her bedroom soon after half-past eleven; fifteen minutes later, her master, hearing loud groans, entered her room and found her writhing in bed, with sobbing and choking respiration. A medical practitioner was at once sent for, who, on arriving thirty-five minutes after she had retired, found her dead. An emptied glass containing vermin powder was found by her side. It was ascertained from the manufacturer, as well as by chemical examination, that it contained strychnine, but in what proportion is not stated. A verdict was returned of *felo de se.*

MANNKOPFF.—*Case of Poisoning by the Java Arrow-poison (Upas Tieuté).* Wien. Med. Wchnschr., vol. xii, Nos. 30 and 31. Schmidt, vol. 116, p. 301.

Dr. R—, of Berlin, a well-known physiologist, took, by way of experiment, about three grains of this poison, which had been sent him from Java. No symptoms were experienced for half an hour, excepting a peculiar feeling of weight in the stomach. At the end of that period a "sensation of stretching" was felt along the vertebral column, and half an hour later a violent shudder occurred, which was immediately followed by forcible "stretching" of the extensor muscles of all the extremities, spasmodic retraction of the head, and trismus. This paroxysm soon passed off, but was speedily followed by others similar to it. Consciousness remained unaffected, and the patient breathed naturally. At his own desire, he was removed to the Charité Hospital an hour and three quarters after taking the poison. An emetic of potassio-tartrate of antimony and ipecacuanha produced abundant vomiting, during which an excessively violent paroxysm of spasm came on, attended with closure of the glottis and suffocation. After this had subsided, ten drops of laudanum were given every quarter of an hour. After five doses (the last two of fifteen drops each) sleep was induced, and lasted for twelve hours, with the exception that it was interrupted from time to time by paroxysms of spasm. On waking he was much exhausted, and still complained of a persistent feeling of tension in the muscles of the left side of the neck and back, but the convulsive attacks had entirely ceased. From this time he speedily recovered, and on the sixth day was quite well. The poisonous substance taken in this case was, as usual, contained in a bit of bamboo, and consisted of a reddish-brown, coarsely granular mass, in which prismatic crystals could be distinguished under the microscope. These crystals were supposed by the author to be strychnine; they constituted 60 per cent. of the mass.

HANSON.—*A case in which Nux Vomica was successfully employed to combat the effects of Poisoning by Aconite.* Boston Med. Journ. Bull. de Thér., vol. lxiii, p. 277.

A child of five years took a poisonous dose of tincture of aconite. When first seen, he was insensible; the pulse was weak and irregular, the breathing slow (five respirations per minute); the limbs relaxed. As vomiting could not be induced by tickling the fauces or otherwise, and the condition of the child appeared desperate, the author gave tincture of nux vomica in repeated doses of three drops. After the first dose the impulse of the heart became stronger, the breathing deeper and more regular, the other symptoms passed off, and the child recovered.

Quinine.

SCHLOCKOW.—*On Certain Actions of Sulphate of Quina.* Studien der physiol. Inst. zu Breslau, pp. 163—176, Leipzig, 1861. Schmidt, vol. 115, p. 121.

The inquiries of the author were directed to the action of fatal doses of quinine on the functions of the heart and organs of respiration. Rabbits and frogs were the animals experimented on; the drug was administered by the mouth and rectum as well as by injection into the subcutaneous cellular tissue.

In frogs poisoned by quinine it is observed that the conjunctivæ lose their sensibility, that the heart's action is at first retarded and finally arrested, and that its irritability is destroyed. The breathing becomes irregular and intermitting, and at last ceases. Automatic movements cease, and those provoked by mechanical irritation are wanting in co-ordination. In rabbits similar effects are produced. In a rabbit under the influence of quinine no acceleration of the heart's action takes place on dividing the *vagi* of both sides; and if the drug is administered to a rabbit in which these nerves have been previously divided, the heart's action is retarded in the same degree as in other experiments; whence the author concludes that this effect is not dependent on irritation of the pneumogastric, but on paralysis of the sympathetic ganglia or of the muscular structure of the heart.

GELINEAU.—*A case in which serious symptoms were produced by a small dose of Sulphate of Quina.* (Journ. de Méd. et de Chir.) Bull. de Thér., vol. lxiii, p. 234.

A young lady, æt. 23, nervous, and of delicate habit, took, about half-past 5 a.m., about six grains of sulphate of quinine, for the purpose of getting rid of an irregular intermittent fever. At seven o'clock she awoke with violent colic, urgent desire to go to stool, horripilations, anxiety, shivering, cold sweats, and extreme hyposthenia. On M. Gelineau's arrival he found the pupils dilated and the patient scarcely able to answer questions; but after the application of cold to the head and warmth to the extremities, the symptoms first described passed off, and in an hour she began to complain of buzzing, drumming, or ringing in the ears, and the other usual symptoms of an over-dose of quinine.

Digitaline.

Stadion.—*The Physiological Action of Digitaline, with special reference to its influence on the quantity and composition of the Urine.* Prag. Vjhrschr., vol. lxxiv, p. 97. Schmidt, vol. 115, p. 287.

The author has made a long series of observations on himself, for the purpose of throwing light on several important questions relating to the action of digitaline which have been hitherto undetermined. He began his experiments by taking two milligrammes (about $\frac{1}{27}$ grain). On the next day the dose was increased to three milligrammes, and so on to the eighteenth and last day of the inquiry, the dose being daily augmented by one milligramme. In order to ensure uniformity of result, the diet was made to consist of a weighed quantity of milk, eggs, bread, and butter, and the research was preceded by preliminary series of experiments for the purpose of determining the effect of this diet on the composition and quantity of the urine. The analyses were made by the volumetrical method, the test solutions being prepared by the author himself with utmost possible exactitude. The urea was determined by Liebig's method, after the elimination not only of phosphoric and sulphuric acids, but of chlorine. Uric acid was determined by the method of Neubauer. The results were as follows:—Digitaline produces in the physiological condition of the organism a diminution of the quantity of liquid which is excreted by the kidneys. It at the same time diminishes the principal constituents of the urine, *e.g.* the urea, chloride of sodium, phosphates, and sulphates, but increases the quantity of uric acid. The acid reaction of the urine remains unaltered, but its specific gravity is invariably diminished. As regards the action of digitaline on the heart, it appears that at first the pulse is accelerated, but subsequently retarded. Digitaline induces rapid wasting of the body and depression of the exchange of material; and in this, according to the author, consists its most important action. Its effects on the circulatory, nervous, and sexual functions, correspond with those of digitalis. The author finds that it is capable of temporarily, but completely, annulling the activity of the sexual organs, and may be regarded as a true antaphrodisiac. It differs from digitalis in being free from those prejudicial actions on the digestive organs which the drug possesses. It is thirty times as active as digitalis. The dose ought never to exceed one fifth of a grain in twenty-four hours. From one twentieth to one sixth of a grain is usually sufficient for the induction of therapeutical action.

Winogradoff.—*On the influence exercised by Digitaline on the exchange* *of Material and on the mean arterial pressure of the Blood.* Virch., vol. xxii, p. 457.

The author propounds the following questions, as embodying the subject of this inquiry :—(1) The effect of digitaline being admitted in retarding the action of the heart, what influence does it exercise on the arterial pressure? (2) Is the diminution of the number of contractions of the heart per minute the result of stimulation of the vagi and of the medulla oblongata, and of the intensification of their regulatory influence on the muscular motor nerves of the heart? (3) What is the action of digitaline on the exchange of material? With a view to the investigation of (1), digitaline was injected into the saphena vein of a dog, and the tube of the manometer was adjusted to the common carotid artery. The instrument used was that of Setschenow, by which the oscillations of the pulse and undulations of the breathing are simultaneously recorded. It was eventually observable that, under the influence of digitaline, the range of oscillation of the pulse increased as the contractions of the heart were retarded, but that there was neither increase nor diminution of the mean arterial pressure; so that the result of the experiment led to the conclusion that digitaline may be given without danger in conditions of disease which are marked by diminished pressure, particularly in diseases of the heart in which the equilibrium of the circulation is disturbed. In this respect the action of digitalis differs entirely from that of stimulation of the vagi, for it was found that when this nerve was stimulated by a weak galvanic current, there is not only diminished frequency of the pulse, but a simultaneous sinking of the mean arterial pressure; so that the second question must be answered in the negative.

As regards the effect of digitaline on the exchange of material, the analysis of the urine of healthy persons of various ages, while taking from three-tenths to two-sevenths of a grain in the course of twenty-four hours, led to the following conclusions:—Digitaline cannot be strictly regarded as a diuretic. Moderately large doses were given continuously for five days, without marked increase of the quantity of urine. In one instance, indeed, there was a diminution. In every case there was a considerable falling off in the daily quantity of the urea and chlorides, and of the salts which resist calcination. The defect urea might, in one instance, be accounted for by the diminution of the whole quantity of urine, but even here the relative diminution was considerable. In one of the experiments the daily defect amounted to 3·1 grammes. There was invariably an increase of the phosphoric and sulphuric acids of the urine, of which no explanation is offered.

The author calls attention to the fact that in health the influence of digitaline in retarding the pulse and depressing the temperature of the body is very much less than in pyrexia. This he is only able to explain by referring it to the more general fact that all remedies which act specially on any particular organ exercise that action most energetically when the organ is in a state of disease.

TRAUBE.—*On the Theory of the Action of Digitalis.* Med. Cent. Ztg., vol. xxx, No. 94. Schmidt, vol. 114, p. 182.

From his previous researches the author had concluded that digitalis exerts its special physiological action on the heart, through the "regulatory system of nerves" (the pneumogastric) exclusively, exciting them in small doses, paralysing them when given in larger quantities; and that the functions of the musculo-motor system of nerves are not impaired until immediately before death in fatal cases. The present experiments were undertaken for the purpose of testing the truth of this theory, of which the author had been led to doubt by the following considerations.

If, in the first stage of poisoning by digitalis, the "regulatory" nerves alone were affected, the diminution of the frequency of the pulse would certainly be accompanied with sinking of the pressure in the aortic system. But experiments with the kymographion [self-registering hæmadynamometer, Ed.] showed that this is not the case, and that in animals under the influence of digitalis, the arterial pressure is not only not diminished during the stage of retardation of the pulse, but that it rises far above the normal, so that obviously the phenomena cannot be explained without admitting that the "musculo-motory" as well as the "regulatory" nerves participate in the production of the results.

In the opinion of the author, this supposition is confirmed by the following experiments:—For the purpose of ascertaining the action of the poison on the heart when exclusively under the influence of the musculo-motor nerves, the vagi were first divided in the neck, and in order to obviate the disturbing effect of the operation (which in itself would have determined an increase of the arterial pressure) a weak solution of curare was injected, and artificial respiration was regularly maintained, each respiratory act being made to coincide with the beat of a metronome.

In each experiment the solution of curare was injected by the right external jugular vein; twenty minutes afterwards, the tube of the kymographion was adapted to the left crural artery, and the vagi of both sides divided. Ten minutes later the injection of the infusion of digitalis was commenced, and continued forty-two seconds. Thereupon the pressure of the arterial column was observed to increase rapidly (in one instance from 159 millimètres to 260 millimètres), attaining its maximum in two or three minutes, and then gradually declining. In order to test the validity of these results, the experiments were repeated under the same conditions, with the exception that water was injected instead of infusion of digitalis. The arterial pressure was unaltered or very slightly affected. It was also ascertained by experiment that in animals in which the vagi had not been divided, the action of digitalis was not in any way modified by the previous injection of curare.

SCHROFF.—*On Cocaine.* Wien. Wchubl., vol. xviii, Nos. 30—34, 1862. Schmidt, vol. 116, p. 297.

As prepared by Merk, cocaine consists of minute, prismatic crystals, the form of which can only be recognised under the microscope. They are scarcely soluble in water, more so in alcohol, most of all in ether. It forms salts with hydrochloric and acetic acids, the solutions of which communicate a peculiar sensation to the tongue, and benumb its special sensibility.

Experiments were made with cocaine itself, the acetate and hydrochlorate, and with an alcoholic extract of coca leaves. This extract is sweet at first, but this sweetness is followed by an intense bitterness, with some astringency. It has an acid reaction and dark-green colour, and exhibits under the microscope minute sheaves of crystals. The cocaine was administered to frogs in doses varying from five to twenty milligrammes, to rabbits in doses of five to ten centigrammes, either by insertion into the subcutaneous cellular tissue (frogs), by injection into the peritoneum (rabbits), or by the mouth.

In frogs, the only effect of the smallest doses was to impair the functions of respiration and voluntary motion; after medium doses drowsiness was produced, accompanied with complete cessation of breathing and a cataleptic condition of the muscles, from which the animal usually recovered. The contractions of the heart were either unaffected or became more forcible than before; when the dose was further increased "all trace of excitability was extinguished," and the action of the heart was so much impaired that its beat could no longer be felt externally. Reflex movements could not be excited by any stimulus. In rabbits the effects differed according to the mode of administration. When the alkaloid was inserted into the cellular tissue it produced death in twenty-eight minutes, preceded by clonic convulsion and extreme mydriasis. After death the venous system and both cavities of the heart were found to be distended with blood. When half the quantity was injected into the peritoneum scarcely any convulsion was observed; the pupils were dilated, and the animal passed into a condition of coma vigil, in which the breathing was remarkably retarded.

For the purpose of determining the influence of cocaine on the human subject, the author made a series of experiments on himself. He found that, as regards respiration and circulation, its effects were similar to those observed in animals. The pulse from the first gained in frequency and strength, while the breathing lost in frequency, but became deeper and fuller. These changes were observable before any nervous phenomena presented themselves. As regards the action of the alkaloid on the functions of the brain, almost the only symptoms recorded are such as indicate a modification of general sensation (*Gemeingefühl*, in which term the author, from the context, evidently includes both sensational and mental consciousness), namely, increase of subjective warmth, great feeling of comfort; this is accompanied by a condition in which the head feels agreeably light, the ideas flow with facility, and fantastic images follow each other in rapid succession, but is soon succeeded by extreme drowsiness, in resisting which the author experienced great oppression of the head and confusion of thought. If he had given way to it, he felt that he would have passed into an agreeable dream-life, such as that produced by Indian hemp. In both instances the effect of the drug varies according to the intensity of effort made by the subject to resist it. This view is confirmed by the complete analogy between the action of cocaine in the frog and that of hemp. As soon as the interference with consciousness ceases, and the relation between the mind and the external world is re-established, all the other functions return to their normal state.

From the preceding facts Schroff is led to regard cocaine as a narcotic which exerts its action proximately and almost exclusively, on the brain itself, at first exciting the cerebral functions, and subsequently inducing impairment of sensibility, sleep, and stupor. It is therefore closely allied to opium and hemp, particularly to the latter. Its therapeutical applications are obvious. It ought to be given in doses varying from one twelfth of a grain to a grain.

As regards the relative activity of cocaine and coca, it was found that the action of four grammes of the alcoholic extract of the leaves corresponded to that of one tenth of a gramme of cocaine. In the author's experiments on himself, five decigrammes produced nearly the effect of a centigramme of the alkaloid; 1000 parts of the leaves contain 5 parts of cocaine and 166 parts of the extract. To obtain the hypnotic, anæsthetic, and sedative action of coca, the alkaloid should be preferred to the alcoholic extract or infusion, which, however, are most suitable when it is desired to act on the organs of digestion.

On Coca.—L'Union, No. 91, p. 235, Aug. 2nd.

The coca plant, *Erythroxylon Coca* (Erythroxyleæ) is a shrub indigenous in Peru, and particularly abundant in the provinces of Quito and Popayan. The alkaloid cocaine is obtained from the leaves, which have long enjoyed a reputation among the Peruvian miners for their power of sustaining the strength, and enabling the workman not only to endure prolonged abstinence, but to ascend heights without dyspnœa. In larger quantities the chewing of leaves induces a state of intoxication similar to that of Indian hemp.

OTHER VEGETABLE PRODUCTS.

BENTLEY.—*New American Remedies.* Pharmac., vol. iii, pp. 456, 540; vol. iv, pp. 12, 52, 104, 263.

In consequence of the recent introduction into the medical practice of this country of many of the remedies which are used by a class of irregular practitioners called eclectics in the United States, Professor Bentley proposes to give a more complete account of their properties than has yet appeared. Proceeding in the order of their natural arrangement, according to De Candolle, he describes first those which are comprised in the Ranunculaceæ. One of these, *Cimicifuga racemosa*, had been already described (see 'Year-book' for 1861, p. 430).

Podophyllum peltatum.—Podophyllum was used by the natives of the American continent before the arrival of the earliest colonists. Since 1820 it has occupied a place in the primary list of the U.S. Pharmacopœia. It grows wild in moist, shady woods, in all the Atlantic States from New England to Georgia. The rhizome and rootlets possess active cathartic properties, and are the only parts of the plant used in medicine; they are officinal in the U.S. Pharmacopœia. The drug has not as yet been largely imported into this country, but the importation of the resinoid extract, podophyllin, has been considerable. According to the most recent analysis, the rhizome contains, in addition to the usual constituents, two resinous principles, one soluble in alcohol and ether, the other soluble in alcohol only. Of these, the former alone possesses active properties. It constitutes four fifths of the whole quantity of podophyllin, or resinous matter extracted by alcohol, contained in the rhizome. Podophyllin is prepared by pouring gradually into water, kept in constant agitation, the treacly liquid obtained by evaporating the tincture yielded by percolation. The resulting precipitate is repeatedly washed and dried at a low temperature. From this substance the pure, active resin may be obtained colourless by re-solution in ether and treatment with animal charcoal. *Hydrastis Canadensis.*—This plant is commonly known as the orange root; as in the case of podophyllum, the officinal part is the rhizome, with its rootlets. When fresh, it has a well-marked narcotic odour, and on section exhibits a bright-yellow centre, surrounded by a dark-coloured zone. According to the analysis of Durand ('Amer. Journ. of Pharm.'), it contains, along with the usual constituents, a dry, acrid resin, a yellow colouring matter, and a nitrogenous, crystalline substance, regarded by him as an alkaloid (hydrastine), which is easily obtained by precipitating the watery extract with magnesia, and treating the precipitate with boiling alcohol; on evaporation, beautiful, four-sided crystals of hydrastine are obtained. The therapeutical use of hydrastis appears to depend entirely on the alkaloid it contains, which possesses tonic and antiperiodic virtues second only to quinine. *Xanthorrhiza apiifolia.*—This drug is employed in America as a tonic similar to quassia, which it resembles in the intensity and purity of its bitterness. It is indigenous in the mountainous parts of the western states, particularly on the banks of the Ohio. The true root is the officinal part. *Caulophyllum thalictroides* (Berberidaceæ).—This plant is supposed to have been employed as a parturifacient for ages by the aborigines of the northern states, in all of which it is indigenous. The rhizome, with its attached rootlets, is the only part used in medicine; it contains a resinoid principle, which is prepared in the same manner as podophyllin. It is also said to contain an alkaloid. The resin (caulophyllin) is employed principally as a tonic, in doses of a quarter of a grain to a grain three times a day. It is believed to possess properties similar to those of ergot as a parturifacient, for which purpose it is given in frequent doses of two or four grains. *Jeffersonia diphylla* (Berberidaceæ).—The rhizome and rootlets of this plant are commonly used, and well known under the name of rheumatism-root. Its properties, both chemical and therapeutical, resemble those of senega root. It is commonly regarded as emetic in large doses, and tonic and expectorant in smaller doses. *Sanguinaria Canadensis* (Papaveraceæ).—Under the name of Puccoon, the rhizome is well known both as a paint and as a medical drug in common use among the Canadian Indians. Its most important constituent is an alkaloid (sanguinarine), which has been obtained in a state of perfect purity. Its salts are remarkable for the crimson or scarlet colours of their solutions, and for their acridity and pungency. The alkaloid is supposed to exist in the rhizome as an organic acid salt, to which the acridity of the drug may be attributed. It is identical with the alkaloid chelerythrine, discovered by Probst in

Chelidonium majus. The preparation used by the eclectics under the name sanguinarin is not the alkaloid, but a dried alcoholic extract, in which it exists along with the resinoid constituents of the root. As a tonic, the alkaloid is given in doses of from gr. $\frac{1}{30}$ to gr. $\frac{1}{10}$. Of the tincture, twenty minims to a drachm may be given as a stimulant tonic, ʒij to ℥ss as an emetic.

THE LANCET.—*Descriptions of New Remedies.* Lancet, Jan. 4th, 11th, 18th; Feb. 8th, 22nd; March 15th; April 19th; July 5th; Aug. 30th, and Dec. 6th.

Anarcotine.—The reporter refers to a paper by Dr. Garden, of Ghazeepore, on this substance (already well known as narcotine, one of the immediate principles derived from opium), founded on the favorable results of its employment in nearly 700 cases of intermittent fever. Dr. Garden's conclusions are as follows:—Anarcotine failed in only 3·6 per cent. of the cases of ague, whether quotidian or tertian, of long or short duration, in which it was given alone. "It arrests the fever, on the whole average, before the recurrence of a third paroxysm after the commencement of the treatment." In small doses of half a grain or a grain, it acts as a tonic. As an antiperiodic, from three to six grains may be given. *Cimicifuga racemosa.*—No new facts are recorded. It is recommended that the concentrated tincture of the rhizome should be given in acute rheumatism, in doses of ʒss to ʒj or ʒij, in repeated doses, until nausea, vertigo, and lowering of the pulse are produced. The substance called cimicifugin, which is prepared by drying and pulverizing the precipitate thrown down by the tincture during spontaneous evaporation, is said to possess all the activity of the tincture itself. It may be conveniently prescribed in pill, two grains being equivalent to a drachm of the tincture. *Prunus Virginiana.*—Wild cherry bark is a "powerful tonic, a calmative of nervous irritability, and an arterial sedative," and is given with great effect in doses of ʒj of the tincture in certain cases of gastralgia, and as a restorative after debilitating acute diseases. *Podophyllin.*—The following communications are embodied in the section on *podophyllin*:—Dr. Gardner states, as the result of his observations in private practice, that he has found that podophyllin does not usually act on the bowels for ten, twelve, or sixteen hours, and that this effect is not due to its direct action, but to the previous discharge of a large quantity of bile into the intestines. He finds it most useful in constipation dependent on hepatic disorder. Dr. Ramskill states, with equal distinctness, that this drug, even in small doses, less than half a grain, produces large evacuations of golden-yellow bile, which are sometimes discharged with very little or even no purging. In this last respect, the action of podophyllin is favorably contrasted with that of calomel, the cholagogue effect of which is derived from its general action on the intestines. These opinions are supported by cases. *Physalis alkakengi.*—The winter cherry is a native of the south of Europe, and commonly cultivated in this country in gardens. All parts of the plant possess a strong bitter taste, which is probably due to a crystalline principle, named physaline. It is diuretic and aperient, and is used as a substitute for colchicum in the treatment of gout. *Menispermum* *fenestratum.*—The wood of this twining plant, which is common in Ceylon, is a tonic bitter. It is rich in the alkaloid berberine, to which probably its medicinal action may be referred. It also contains another alkaloid principle, called columbine. It is considered to be more active than columbo, and equally free from astringency. *Menispermum Canadense.*—The root of this species is also employed as a tonic. Its action is similar to that of the Ceylon species. It is plentiful everywhere in the United States. *Iris versicolor.*—The rhizome of this plant is used in America as an emetic and cathartic. The substance to which the name iridin has been given, is prepared like podophyllin, by mixing the alcoholic extract with water and collecting the precipitate. It produces mild catharsis, with biliary stools, and may be given alone. It neither irritates the rectum nor produces constipation by its prolonged use. It acts more gently than podophyllin, and is equally reliable as a cholagogue. *Leptandra virginica.*—The dried rhizome acts as a cholagogue, tonic, and gentle laxative. *Leptandrin* is a similar preparation to podophyllin; it contains a crystallisable alkaloid. It is met with as a black, shining powder, which probably often contains some other substance added in order to facilitate pulverization. Like iridin, it is supposed to be cholagogue, but differs from it in being without purgative action, for which reason it is of great value in chronic dysentery and infantile diarrhœa. *Sarracenia purpurea.*—On this plant the report consists of an original communication from Mr. Miles, who records the alleged effects of this species of pitcher-plant among the Indians of Nova Scotia as an antidote to the poison of smallpox, but appears not to have seen any cases. *Verbascum Thapsus.*—The tincture of this very common plant (mullein) is possessed of narcotic properties. In drachm-doses it acts with more certainty than hyoscyamus. *Gelseminum sempervirens.*—Yellow jasmine is said to be a nervous sedative. In moderate doses (♏iij—♏viij of the tincture) it produces muscular relaxation, so that the patient has difficulty in moving his eyelids or keeping the jaws closed. It is stated that in larger quantity it produces dimness of vision and dilated pupil, with complete loss of muscular power, and diminishes the frequency and force of the pulse and the frequency of respiration. It is used in America in the treatment of idiopathic fevers; it is said that the first indication of its action on the nervous system, dropping of the eyelids, is always attended with a remarkable disappearance of the febrile symptoms.

Ranunculaceæ.

HOLM.—*On the Physiological Action of Helleborus viridis.* Würtz. Med. Ztsch., vol. ii, p. 448. Schmidt, vol. 114, p. 183.

Holm's experiments were made on rabbits and frogs. A solution of the alcoholic extract was employed, and was administered, sometimes by the mouth, sometimes by injection, into the cellular tissue or (in rabbits) into the pleura, near the heart. The author concludes that in poisoning by this drug, paralysis of the heart is the primary cause of death, and is dependent on its direct action on the muscular tissue of the organ, the contractions of which, after they have once ceased, cannot be renewed, either by electricity or any other stimulus. In a subordinate degree, the drug affects the motor nerves and, still more remotely, the voluntary muscles, which, however, do not lose their excitability until long after the nerves have been deprived of their conducting power, so that green hellebore cannot be ranked among the muscular poisons, none of which have any action on the nervous trunks. The brain appears not to be affected at all; it is doubtful whether the functions of the spinal cord are modified or not, for the transitory convulsions which were observed in most experiments may be referred, with equal probability, to the diminished circulation of blood, arising from the primary action of the poison on the heart.

PARISH.—*On the Preparation of Podophyllin.* Chem. News, April 26th.

The process for preparing resin of podophyllum consists in exhausting the finely powdered root with strong alcohol, concentrating the tincture, and throwing it into water to precipitate the resin. According to Mr. Parish, six ounces of alcohol are required for the exhaustion by percolation of a pound of the root. The tincture thus obtained is evaporated to half its bulk, and thrown into four times as much water. The aqueous liquid is then heated in a water bath nearly to the temperature of ebullition, and rapidly stirred, when the resin collects in a fused mass in the centre of rotation. By kneading in water it becomes lighter in colour, and is then placed between folds of bibulous paper and dried in the air for use. By this method the root yields from 3 to 5 per cent. of its weight of resin.

Sapindaceæ.

V. FRANQUE.—*On Paullinia sorbilis.* Bayer. Intell. Bl., No. 17. Schmidt, vol. 115, p. 291.

The author has employed guarana paste in numerous cases of hemicrania, three of sleeplessness with nervous excitability, and seven of chronic diarrhœa in children. All the cases of hemicrania were inveterate, and had been very variously treated without advantage. In all, the attacks were more or less periodical. They were not entirely prevented in any instance, but in four of the patients the disease was arrested by the administration of the remedy at the first appearance of the symptoms. In other cases the duration of the attack was shortened, and the exhausting vomiting to which the patients were liable towards its termination was entirely prevented. The drug was given in powder, in doses of from four to ten grains to adults. Doses of from sixteen to twenty grains produced giddiness, tinnitus aurium, and sensations of pricking and cold, extending to the whole cutaneous surface.

STILESEN.—*On the Fatty Extract of the Horse-chestnut.* Forhandl. ved de Skand. Naturforsk. i. Kjöbenhaven, p. 354. Schmidt, vol. 113, p. 163.

The oil of horse-chestnuts is obtained by digesting the powder of the dried fruit with ether for eight days; the greater part of the ether may be recovered by distillation. By this expensive process eight and a half ounces of oil are obtained from thirteen pounds of the powdered chestnuts. The remedy is used in rheumatism, and has been found to be of great value as a rubefacient, to be rubbed into the affected parts. Its constitution is said to be similar to that of croton oil.

Terebinthaceæ.

CLARUS.—*On the Pharmacology of Rhus toxicodendron.* Schmidt, vol. 115, p. 166.

By numerous experiments on the healthy human subject, as well as on animals, the author has investigated the reputed poisonous properties of this well-known plant. His conclusions are as follows:—The supposed property of the sumach to exhale in shady places and during the night, a gas which is capable of producing inflammation and vesication of the skin, cannot be demonstrated. No such property is possessed by the fresh milky juice, or by the fresh leaves, either of which may be applied to the skin without producing the slightest irritation. No fixed acrid or narcotic principle resides in the plant, although traces of an alkaloid may be detected. The officinal extract exerts no physiological action whatever, either on man or animals. When given internally to rabbits, the fresh juice of the leaves was found to be entirely inert. Other experiments, in which a variety of preparations of the drug were investigated, led to the same results. The author is of opinion that the plant ought to be excluded from the Pharmacopæias; even if it be admitted that the growing plant is possessed of toxical properties, it may be regarded as certain that these are entirely wanting after it is gathered.

Galiaceæ.

TIMBAL-LAGRAVE.—*On the Pharmaceutical Properties of Galium verum, Mollugo, et palustre.* Bull. de Thér., vol. lxiii, p. 212.

The author has examined the various species of galium at different periods of growth, with reference to the quantity of alcoholic extract obtained by maceration of the fresh plant and evaporation. He concludes that *Galium palustre* is preferable to every other species, and that it is most active when in bud.

OGLE.—*On a proposed Remedy (a species of Galium) for Epilepsy.* Lancet, May 17th.

This paper contains a summary of the medical history of the various species of galium, which have enjoyed a reputation from the earliest periods as antispasmodic remedies, as well as a description of the treatment of epileptics at Tain (l'Ardèche) by the expressed juice of *Galium Mollugo*, a variety of which grows in abundance near that town, on the Hermitage Mountain, so renowned for the quality of its wine. To this locality no less than 800 or 900 patients resort annually from all parts of the world, of whom about one in four are said to be materially benefited. Encouraged by the result of his inquiries on the spot, the author has successfully tried the remedy in private and hospital practice. Although occasionally it produces vomiting and purging, its action is mainly manifested in the diminution of the frequency and intensity of the paroxysms. The preparation used was an extract of the fresh juice.

Aquifoliaceæ.

Pellischek.—*On Ilex Paraguayensis.* Oester. Ztsch., vol. vii, p. 45, 1861. Schmidt, vol. 116, p. 296.

The plant which produces Paraguay tea is met with, not only in the province of that name, but in the fertile country to the southward, which lies between the rivers Parana and Uruguay. The finest tea is prepared from the smallest bushes. It consists either of half-opened buds, of the leaves carefully stripped from their stalks and ribs, or, lastly, of the twigs and leaves, dried in the air. It is in the two latter forms only that the tea is exported. The leaves contain tannin and ilicine, which latter is chemically identical with theine. The aromatic taste and narcotic action of the tea is believed to be due to a volatile oil which is developed in the process of infusion. In Paraguay the infusion (*maté*) is drunk at all meals; it is made by pouring hot water on the powdered leaves, and is sucked through a tube fitted at one end with a perforated strainer. The infusion has a pleasant smell and an agreeable, bitter taste. It is much more stimulant than ordinary tea, and produces a kind of intoxication if taken in excess. It is said, however, to tranquillise the passionate, and enliven the dull. The principal value lies in its power of sustaining nutrition; under its influence the metamorphosis of tissue is retarded, and the quantity of carbonic acid exhaled by the lungs, as well as of the other excretions, is diminished. Although the quantity of food becomes less, the health and bodily strength remain unimpaired, so that in a certain sense it takes the place of nutriment, although it is not itself nutritious. When taken in excess, it produces dryness of the throat, thirst, dysury, anxiety, præcordial oppression, pyrosis, sickness, constipation, dyspnœa, palpitation, vertigo, shivering, sleeplessness or nocturnal delirium, attended with terrifying illusions, and followed by a condition of incoherent dreaminess during the day.

Araceæ.

Chairon.—*Case of Poisoning by the root of Arum Caladium.* L'Union, Dec. 18, p. 538.

A workman, æt. 44, of vigorous constitution, sent one night a written message, to the effect "that he had eaten a poisoned radish," to Dr. C—, who, on arriving at his bedside, found him in the following condition:—complete aphonia; extreme agitation; breathing difficult and painful; incessant, dry cough, which had a muffled timbre, and was exasperated by every attempt to speak; on being asked where he felt pain, he pointed first to his throat and then to the pit of the stomach. The pulse was almost natural (72), the breathing quick, and the respiratory movements interrupted, the epigastrium sinking at each inspiration. There was neither diarrhœa nor vomiting. The whole of the mucous membrane of the mouth was injected, especially the soft palate and uvula, and the epiglottis and its folds were found, on exploration with the finger, to be much swollen and excessively tender. Thirty-six hours after, all these symptoms were declining, and after a few days the patient was well. It appeared subsequently, that this man had been induced, by way of a practical joke, to swallow a radish which had been rubbed over with caladium root, which is popularly known to have the property of producing complete aphonia without any more serious effects than those of intense irritation of the mouth and fauces.

Algæ.

DANNECY.—*On the preparation of the Extract of Fucus vesiculosus.* Bull. de Thér. lxiii, p. 160.

In consequence of the papers of M. Duchesne Duparc, this drug has been largely employed in France as a remedy for adiposity. M. Duparc gives the extract for this purpose in doses amounting to about a drachm daily. Under its action the urine is increased in quantity and altered in character, the appetite is increased, and emaciation follows, without the slighest interference with digestion.

The extract is prepared as follows:—The plant is gathered during the period of fructification, immediately before the bursting of the conceptacles, and dried in the sun till it becomes friable. It is then pulverized and macerated three days with four times its weight of alcohol of 86°. The residue, after expression, is again twice treated with alcohol of 54°, and the liquids of the three processes mixed and filtered. The filtrate is then reduced by distillation and evaporation to the consistence of extract, which is administered in the form of pill.

Fungi.

On the Death of several Horses in consequence of being fed on Mouldy Oats. (Translated from the 'Veterinarian.') Journ. de Pharm., July, 1862.

Six horses, belonging to one proprietor, and fed on the same corn, died suddenly after symptoms of poisoning. The corn was analysed by Mr. Tuson, who was unable to detect any mineral poison. By way of experiment, an old mare was fed on the suspected corn for several days. On the fourth the animal began to totter in walking; towards evening it fell, and could not get up again, and the author found that the hind limbs were paralysed. Sensibility was impaired, the visible mucous membranes were pale, the pupils dilated, the breathing quick, and the pulse feeble (50). Death followed in two days. The dissection revealed no pathological appearance. The physical and structural characters of the grains of oats are described by Mr. Tuson as follows:—The oats have a mouldy smell. Each grain is covered with a grayish, easily detached, pulverulent material, and exhibits on section a blackish centre, of horny consistence. Both substances appear under the microscope to consist mainly of spores, and on more careful examination, tubes of aspergillus, each terminated by a globular head, can be distinctly made out.

FREMY.—*On Malt, and its employment in various Diseases.* Journ. de Pharm., vol. xli, p. 426.

For several years malt has been employed as a medicine in Germany, and appears to have been exhibited with marked success in certain catarrhal affections of the bronchial mucous membrane, and in various forms of dyspepsia. M. Fremy has employed it in the form of decoction of the powder (as prepared at Baruth, near Berlin), and regards it as tonic and analeptic, by reason of the considerable proportion of diastase which it contains. It has been found that the decoction, obtained by macerating the malt powder for an hour in water, at a temperature of

75° C., contains all the gluten as well as the glucose of the grain in a soluble state.

ORGANIC CHEMICAL PRODUCTS.

WILLSHIRE.—*Cases of Alcoholic Poisoning.* Lancet, March 29th.

Case 1.—C. C—, a porter, æt. 65, was brought into hospital with the following symptoms:—pallor and coldness of surface, mydriasis, almost imperceptible pulse, suspirious breathing, and coma. After the free use of the pump, injection of strong coffee into the stomach, and enemata of castor oil and turpentine, he gradually recovered. He had taken a pint and a half of raw gin and brandy within twenty minutes. He had been habituated for forty years to spirit-drinking.

Case 2.—J. S—, æt. 26, a cabman, was brought into hospital in a similar condition, with the exception that the face was livid and the breathing stertorous. Consciousness returned in about eight hours under similar treatment.

LAMM.—*Case of Acute Poisoning by Chloroform.* (Transl. from the 'Hygiea,' Feb., 1862.) Med. Times, p. 478, May 10th.

A gentleman, æt. 35, who occasionally suffered from wakefulness, and was in the habit of using chloroform as a hypnotic, took, about half-past twelve on the night of October 6th, an undetermined quantity of chloroform, probably amounting to several drachms. At seven next morning he was seen by Dr. Lamm in apparently tranquil sleep (from which, however, he could not be roused), with somewhat hurried and audible respiration. The surface was warm; the pulse full, but slow; the eyelids closed, the pupils highly dilated and insensible to light. The room, which smelt strongly of chloroform, was immediately well aired. A bladder of ice was applied to the head, cold affusions to the spine, and a common enema was administered. At half-past nine the surface had grown paler and less warm, and the pulse was slower and much weaker, on which account it was determined to apply artificial respiration by electricity, the sponge electrodes being held, one at the pit of the stomach, the other "to the neck over the phrenic nerve alternately on the right and left side." Electricity was also applied to the spine, thoracic muscles, and calves of the legs, as an excitant, and the alternate application of warmth and cold was continued. Under this treatment breathing became somewhat deeper and more distinct, and about half-past eleven the pupils began to contract, the skin became warmer; the breathing further improved, although very rapid relatively to the pulse. About 9 p.m. the patient began to moan in expiration, elevating the alæ nasi at each inspiration. The eyes began to move, and the pupils became slightly sensitive to light. On the application of ammonia to the nostrils he turned away his head, but in other respects no signs of feeling were observed. Subsequently he perspired profusely, the pulse grew rapid (160), and the head hot, in spite of the constant use of the ice-bag. Still later, he became restless, tossing his head from side to side. Death occurred at 12 p.m., being preceded by progressive acceleration and weakening of the pulse, gurgling in the throat and profuse sweating. The body was examined thirty-eight hours after death; the most important pathological appearances observed were the following:—The muscles of the neck and extremities were rigid; the dependent parts of the surface exhibited lividity. The cerebral veins and sinuses were distended with fluid blood, and the surface of the hemispheres exhibited unusual and minute venous injection; the intergyral spaces contained opalescent, yellowish effusion. "The cerebral substance was everywhere loose, soft, and highly dotted with blood." The ventricles were not distended; their lining membrane was softened, and the choroid plexuses highly injected. Anteriorly, the lungs appeared natural, but posteriorly the pulmonary substance was gorged with blood and friable, and sank in water. The bronchial tubes contained frothy, blood-coloured fluid, their mucous membrane being pink coloured, but otherwise normal. The abdominal organs exhibited nothing remarkable, excepting congestion of the mucous membrane of the cardiac end of the stomach.

The author remarks that in the first few hours of the period of observation, the condition of the patient was that of depression approaching extinction of all the functions of life, manifested in the coldness and dryness of the surface, complete suspension of the urinary (no urine was passed, and on passing the catheter the bladder was found to be empty) and other excretions. At length, "after all the chloroform had been removed by respiration, violent reaction set in, which became so intense in the brain as to destroy its activity, though not until all the secreting organs had not only resumed their functions, but had discharged them in an excessive degree."

FRASER; MACKENZIE.—*Case of Poisoning by Aniline.* Med. Times, March 8th.

George L—, æt. 16, was brought to the London Hospital in the following condition:—The general surface was pallid, the lips, mucous membranes of the mouth, and nails, of a deep-purple colour; the pulse was slow and almost imperceptible, and the impulse of the heart feeble. He appeared insensible, but was able to complain of pain and swimming in the head. Under a treatment consisting of the application of external warmth and the administration of brandy and ether the patient gradually improved.

KNAGGS.—*Case of Poisoning by Aniline.* Med. Gaz., June 7th.

James K—, æt. 39, inhaled a quantity of aniline vapour in consequence of the accidental breaking of a carboy containing that liquid. About an hour after this occurrence he became affected with giddiness and weakness, with sweating. About four hours later he was obliged to go to bed, and after the lapse of eleven hours Mr. Knaggs was sent for, when his condition was as follows:—The whole surface of the body, especially the lips and visible mucous membranes, were blue; the breathing was gasping. He was perfectly sensible, and able to describe the accident and to complain of pain in the head and chest. The pulse was small and irregular. Two ounces of brandy were given immediately, and cold affusions were applied externally, followed by sinapisms. Subsequently an ounce and a half of brandy were given every fifteen minutes, and a draught with ammonia and chloric ether in the intervals. Ammonia was also inhaled every third or fourth inspiration. This plan was kept in operation for several hours until the symptoms disappeared.

Letheby.—*On the Nascent Oxygen Test for Aniline.* Chem. News, Feb. 8th.

If a drop of a solution of one part aniline to 1000 of dilute sulphuric acid (1 to 7) is placed on a clean piece of platinum, and touched with the negative pole of the galvanic battery (a single Groves cell), while the positive pole is in contact with the platinum, the liquid acquires a bluish, then a violet, and finally a pink colour.

Witlacil.—*Case of Poisoning by Hydrocyanic Acid.* Wien. Med. Wchnschr., vol. xii, No. 15. Schmidt, vol. 115, p. 291.

A worker in bronze, of intemperate habits, took one evening several gulps of the solution of cyanide of potassium used in electro-plating. The fatal effect was immediate; after a few gasps he died, without convulsion. The results of the autopsy, performed thirty-eight hours after death, are recorded as follows:—Marked rigor; countenance unaltered; right pupil contracted, left dilated; mouth open; lower jaw immovable; fingers clenched; bright-red discoloration of the dorsal surface of the trunk. Membranes of the brain congested; cerebral substance studded with very numerous red points. Mucous membrane of the air-passages uniformly stained of a bright-red colour. Excessive hyperæmia of both lungs, the whole of the substance of the right lung being soaked with finely frothy blood, and of a bright-red colour. Similar condition of the left lung as regards those parts which lie nearest the middle line, the upper lobes being œdematous. Heart relaxed; the left ventricle empty, the right containing a mass of tarry blood, having the smell of bitter almonds. Liver and spleen intensely congested, the latter enlarged, and containing dark, thick blood, smelling of bitter almonds. Mucous membrane of the stomach deeply injected, its contents smelling strongly of prussic acid.

Demme.—*Nitro-glycerine as a Therapeutic Agent.* Schweiz. Ztsch., vol. i, p. 156. Schmidt, vol. 116, p. 174.

Nitro-glycerine is prepared by adding one volume of glycerine, drop by drop, to six volumes of fuming nitric acid and twelve volumes of sulphuric acid, taking care not to allow the temperature of the mixture to exceed 15° or 20° C. Its constitution is $C_6H_5(3No_4)O_6$. Its solution in spirit of wine is the most convenient form for therapeutical use. It contains one ninth, by weight, of nitro-glycerine.

The author made experiments on himself, and observed the action of the remedy in his hospital practice at Berne, where he gave from two to three drops of the solution three times a day or oftener. His results were as follows:—Nitro-glycerine is to be regarded as an energetic poison. Its action resembles that of nux vomica and its preparations, but in some respects it appears to be more active. After ten drops of the solution the author experienced in a few minutes smarting pain in the throat, excessive headache and vertigo, contraction of the masseters and temporals (slight trismus), and twitching of certain groups of muscles of the limbs, all of which effects had passed away in twenty minutes. Therapeutically, the drug was found of marked efficacy in those forms of partial paralysis in which strychnine is usually prescribed.

CALVERT; ASPLAND.—*On the Therapeutic Uses of Carbazolic Acid.* Med. Times, Sept. 13th.

On the recommendation of Mr. Calvert, Mr. Aspland has used carbazotic acid and carbazotate of ammonia as an antiperiodic in ague and as a tonic in other diseases. The dose of the acid varies from a grain to four grains. Its greatest inconvenience consists in its communicating a yellow tinge to the skin, which, however, passes off after two or three weeks.

BERNATZIK.—*On the Physiological Action of the Sulphite of Perchloride of Carbon* (*Carboneum perchloratum sulphurosum*). Wien. Ztsch., vol. xvii, p. 111. . Schmidt, vol. 114, p. 184.

This substance has been used for some time as a remedy in Bright's disease by Professor Körner, of Innsbruck. It is a colourless, crystalline body, of great brilliancy, insoluble in water and acids, slightly soluble in alcohol and ether; it fuses at 135° C., boils at 170°, and sublimes without decomposition. It possesses a disagreeable smell, and its vapour is very irritating; when inhaled, it produces smarting in the back of the throat and violent cough, with lachrymation. In damp air the crystals are decomposed and become acid; carbonic, hydrochloric, sulphurous, and sulphuric acids being produced. It was found by Körner that, when given in medicinal doses (℥j—v), it produces inclination to cough and copious expectoration, the breathing becomes deep and tranquil, the contraction of the heart more vigorous, and (in cases of albuminuria) albumen disappears from the urine. Körner attributes these results to the increase of the contractility of the arteries and lungs, and the consequent diminution of tension in the venous system and more equal distribution of the blood in the circulation. By this means albuminuria (if dependent on abnormal conditions of vascular pressure) is at once prevented.

The author has endeavoured to confirm the clinical observations of Körner by experiments on healthy subjects. He gives the following account of the action of the medicine. Immediately after taking it (in doses of one grain) a sensation as if chlorine had been inhaled is experienced both in the nares and fauces. This is followed in three minutes by retching and chlorinous eructations, which continue for some hours. Irritation in the back of the throat is complained of for the rest of the day. In each experiment the pulse diminished in frequency (from 7 to 21 per minute), the greatest diminution being attained two and a half hours after the dose; at the same time it became harder and of less volume than before.

These phenomena are regarded by the author as implying that this substance acts as a powerful excitor of the pneumogastric nerve (hence increased contractility of the lung-tissue and heart). In this respect its action agrees with that of digitalis, and is accordingly marked by a similar modification of the contractions of the heart, which in this case, as in that of digitalis, are rendered fuller and stronger at the same time that they are retarded. As regards the duration of the effect, there is a marked contrast between the two agents—that of digitalis comes on late and lasts long, while that of the sulphite of perchloride of carbon passes off entirely in two or three hours. The author found that the increase of the dose produced no increase either of the intensity or duration of the effect.

ANIMAL POISONS.

Beaugrand.—*Poisoning by Putrescent Alimentary Substances.* Ann. d'Hyg., vol. xvii, p. 455.

A hare and a rabbit, killed on Sunday, were cooked on the following Wednesday in a pie; lard, which had been used without pernicious effect previously, was employed in its preparation. On the following Sunday, at noon, the pie was eaten by several servants; in the middle of the following night, *i. e.* fifteen hours after the meal, all of them were attacked with colic, nausea, anxiety, prostration, and profuse diarrhœa, the severity of the symptoms varying with the quantity which had been taken. They all recovered.

In another case alarming symptoms are recorded as having followed the consumption of a kid caught in a snare, in which it had struggled with violence and died in an agony of terror. Of a family who partook of this animal all were affected with dryness of the fauces, epigastric pain, retching, vertigo, and prostration, some of which symptoms lasted for six weeks. The father, who had eaten the largest quantity, exhibited the symptoms of typhoid fever, which terminated in suppuration and gangrene, and was accompanied by severe nervous symptoms, characterised by trismus and opisthotonos; notwithstanding, he eventually recovered. His wife, who suffered less severely at first, became subsequently affected with carbuncle, and died by gradual exhaustion.

The author points out the analogy between the poisonous effects which appear to result, as in the last case, from conditions affecting the mode of death of the animal, with those which arise from subsequent putrefactive change in the meat, and discusses, in relation to these effects, the theories according to which they are attributed either to the existence of fatty acids or other chemical compounds, or to the development of certain forms of filamentous fungi.

Buckenham.—*Extraordinary cases of Poisoning.* Lancet, Sept. 13th.

A family of ten persons, after partaking of a rabbit-pie, were affected with purging and abdominal pain during the night. These symptoms were relieved by astringent medicines, but on the third day some of the patients again partook of the same pie, after which much more aggravated symptoms of poisoning presented themselves. In the most severe case the patient was apparently insensible and pulseless, and the surface cold and clammy. Under a treatment consisting mainly of stimulants and opiates they gradually recovered. It was ascertained that the constituents of the pie were in a wholesome state when cooked, but that it had been "kept two or three days in very hot weather."

Mackay.—*Cases of Poisoning by Goat's Milk.* Ed. Med. Journ., No. 81, p. 825.

On the 27th of November ten or eleven officers of Her Majesty's Ship Marlborough, at Malta, were suddenly seized after breakfast with extreme faintness, nausea, violent bilious vomiting, and diarrhœa. The attacks were of various intensity, and were treated by hot water to encourage vomiting, followed by stimulants, anodynes, and epithems to the abdomen. Several officers on board four other ships were similarly affected about the same time. Having ascertained that the only article of food of which all had partaken was milk, the author's suspicions fell on this liquid; and on inquiry, it was found that the goats in Malta are apt to browse on a poisonous species of spurge (*Euphorbia Paralias*) if allowed to graze at large; and further, that this plant is occasionally given by unprincipled milkmen to their goats as a galactagogue.

POISONOUS GASES.

SCHUMACHER.—*On Poisoning by Coal-gas.* Henke, vol. xlii, pp. 1—66.

This lengthy paper comprises the details of a medico-legal investigation relating to a number of cases of poisoning by coal-gas which occurred during the month of January, 1859, at Salzburg, under the following circumstances:—During several weeks preceding the opening of the new gas-works, gas was on one or two occasions distributed to the town by way of experiment, for short periods at a time. On two of these occasions it happened that several persons were poisoned, either in consequence of the accidental leaving open of pipes, or of the imperfection of the fittings. In all, fifteen or sixteen persons appear to have been attacked, one of whom died. Of these, eight resided under the same roof, although occupying different tenements, and suffered during the same night. Most of the remaining cases, one of which was fatal, occurred six days later, in a house adjoining. The paper contains a detailed description of the buildings, and of the mode in which the gas found its way, by the interstices of the masonry and between the floors, from the leakage into the several bedrooms.

The first case recorded is that of a butcher, æt. 43, who was found at 9 a.m. on the 9th of January, lying on the floor, with his legs retracted, foaming at the mouth, cold, pulseless, and perfectly unconscious. His daughter lay in bed in a similar condition. After repeated bleedings and the use of other means, the pulse became perceptible, and in three hours consciousness returned, and he was removed to the hospital, complaining only of giddiness and weakness. The other six persons who suffered on the same night were members of one family, and resided in one room. From the evidence of the medical practitioner who was first sent for, it appears that on arriving at the house at three o'clock on the morning of the 9th, he found the patients lying in bed, more or less insensible. In all the cases, the features were pale and collapsed; the muscles were flaccid and relaxed, so that the head and extremities lay as if lifeless; the breath had a peculiar acrid smell, which reminded the observer of garlic. Three of the patients were adults, the rest children of the ages of eight years, eighteen months, and six months. The infant suffered least, and the rest in direct proportion to their age. Dr. A— had them all removed into an adjoining room, on which they speedily regained consciousness (in the worst case after the lapse of half an hour). During their recovery all of the adults complained of headache, vertigo, and sternal oppression, and the pulse and breathing were accelerated. In the most severe case, already referred to, the limbs were spasmodically extended, and the other two adults complained of shivering and rigors. The first symptoms came on in the same manner in all of the cases. None of the patients experienced anything amiss until they attempted to move. The mother, who was first attacked, got up to make the fire, in doing which she perceived the smell of gas, and immediately afterwards became giddy and fell senseless. The maid servant, in getting up to help her mistress, fell in the same manner, and finally the sister, who had also left her bed, after holding out for half an hour, suddenly fainted. By the evening all the patients had recovered.

The following facts relating to the fatal case are derived from the evidence of the ordinary medical attendant and experts. Mrs. R—, a widow, resided in an apartment on the first floor, consisting of four rooms, the largest of which was her bedroom. At the time of the accident she had been for ten days suffering from bronchial catarrh, in consequence of which she had been advised to keep her bed for the two preceding days. Early on Friday morning, after sleeping quietly for some hours, she fell senseless on getting out of bed, and was supposed to be in a fit, but on the arrival of the doctor all symptoms had disappeared. On the following morning early he was again sent for, and found the patient sleeping quietly, but from time to time making choreic movements of the hands and feet, which he attributed to the effect of half a grain of opium given the previous afternoon. During the day she remained well, and slept all night. On Sunday morning Dr. B— found her sleeping quietly. The breathing was tranquil and deep, the pulse full, the skin moist. On being loudly spoken to she did not wake, and he observed that a fine froth escaped from her lips. Under the idea that she had been asphyxiated by the fumes of burning peat from the stove, all the windows were at once opened, and the patient removed into the next room. But finding, on inquiry, that the servants who had slept in the same room with the stove were unaffected, his suspicion fell on the gas. In this surmise he was confirmed by hearing that other individuals had suffered in other parts of the house from giddiness, headache, and vomiting. No smell of gas was perceptible, either in the room or elsewhere. In consultation with Dr. A—, frictions and cold affusions were at once employed, and in a short time the pulse became perceptible, and the patient remained in a state of partial consciousness for the rest of the day, during which the chest affection would appear to have made rapid progress, for the normal breath sounds were replaced by mucous râles, which were heard universally on the right side. She slept quietly, but the next morning the breathing became short and quick, and the pulse so rapid that it could not be counted; the skin, which the day before was red, assumed a tinge of lividity, and about 8 p.m. she died.

The most important pathological appearances observed at the autopsy, which took place forty-two hours after death, were the following:—Although the room in which the body lay was warm, there was scarcely a trace of putrefaction. The joints were supple, the muscles soft and relaxed, and the physiognomy that of tranquil sleep. The brain-substance (especially the gray matter) was congested; the mucous membrane of the larynx and bronchial tubes was injected, the external surface of the lungs marbled with shades of colour varying from rose to purple, and numerous ecchymoses were observable both under the costal and pulmonary pleura. On section, both lungs were found to be congested, and the left base was infiltrated with fine froth, either colourless or tinged with blood. The substance of the heart was hyperæmic and flaccid, and its cavities contained dark, tarry blood. From these appearances, and from the symptoms recorded during life, the experts concluded—"that the proximate cause of death was the disordered function of the brain and lungs, the more remote toxæmia by breathing an irrespirable gas," and that the previously existing bronchial catarrh could not be regarded as contributing to the fatal termination (p. 24).

The chemical investigation of the organs yielded negative results. As regards the extraordinary fact that gas had escaped in such quantity as to prove fatal without its smell being perceptible until after the patient's death, the experts were of opinion that the gas had been deprived of its odorous constituents by passing through moist, sandy earth and masonry, but that as soon as these materials were saturated, the characteristic odour became perceptible.

ODY.—*A case of Suffocation by the Fumes of Live Coals.* British Med. Journ., Jan. 11th.

A labourer and his wife retired to rest in a small (800 cubic feet capacity) unventilated bedroom, taking with them a shovelful of live cinders and coals, which were placed in the grate. About an hour after, groans and unusual noises, as if of retching, were heard by the neighbours, who, on forcing an entrance into the cottage, found the woman already dead, and the man lying insensible on the floor. On the admission of air he gradually regained consciousness. He described his symptoms as follows:—"I felt sick, and retched once or twice; I then felt my strength fail me, and experienced a weight across my forehead and giddiness and noise in the ears. I lay down with my head over the side of the bed, and shortly became insensible." The body of the woman was found in the supine position, the features composed, the face pale, the conjunctivæ brilliant, the pupils widely dilated. All the depending parts were of a dull-pink colour. On opening the chest, the lungs were found to be pale and crepitant in front, but gorged with fluid below and behind. The right cavities of the heart were full of fluid blood, the left empty. The air-passages contained frothy mucus stained with blood, and portions of vomited food were found even in the smallest bronchial ramifications. The respiratory mucous membrane was of a florid-pink colour. The absence of vascularity of the brain or its membranes was remarkable, but this was probably referable to the fact that in opening the thoracic cavity much blood had escaped. The blood was everywhere fluid. The author remarks that, from the statements of the neighbours and of the husband, it appeared that a period of ten minutes must have elapsed between the first alarm and the death of the woman, during which she was for the most part conscious and even capable of conversing. He further notices that in neither case was there vomiting.

In the fatal case the stomach was full, and although the mouth contained undigested food, none was found on the bedclothes, so that the sounds heard were probably rather those of gasping respiration than of retching.

Aldis. — *On the Poisonous Effects of Coal-gas upon the Animal System.* Med.-Chir. Trans., vol. xlv, pp. 99 and 137.

This paper is founded on a series of sixteen experiments on rats. In six of these the animals were immersed in undiluted gas until death took place; in six others the immersion was only continued until insensibility was produced, and the effects of various restorative means were tried; while in the remaining four the effects of gas diluted with different proportions of air were investigated. In the first series common gas was used in three experiments, cannel gas in two experiments, and impure gas in one. With common gas (Newcastle coal, enriched by Wigan cannel), the periods at which insensibility was produced were severally thirty seconds, thirty-three seconds, and twenty-one seconds; and death took place in ninety seconds, eighty-three seconds, and seventy seconds. With cannel gas the animals became insensible in twenty seconds and in twenty-five seconds, and died in sixty-five seconds and a minute. Foul gas rendered a rat insensible in eleven seconds, and killed it in forty-five seconds.

From the second series it appeared that rats rendered insensible by gas were resuscitated in thirty-five and fifty-five seconds on exposure to fresh air, in 105 seconds on exposure to air containing ammonia, and in eighty-five seconds in a vessel containing oxygen. In an atmosphere consisting of equal parts of air and coal-gas, insensibility occurred in seventy-five seconds, and death in two and a half minutes. In an atmosphere containing one fourth of coal-gas "the respiration became hurried in three minutes, the head dropped in five minutes, slight and repeated spasmodic action of the diaphragm occurred in six minutes, which lasted five minutes more, when death followed." When the proportion was reduced to one fifteenth the animal soon began to pant hurriedly; the head fell in ten minutes, after which two convulsive "springs" were made, and in seventeen minutes the animal appeared insensible. Convulsions recurred at intervals of five and eleven minutes, and in forty-one minutes after immersion respiration became laborious and death occurred. As pathological results of poisoning by gas, the author found congestion of the brain and its membranes, distension of the right side of the heart, and absence of coagulation of the blood, to be the most common, but none of these were invariable.

REPORT

ON

FORENSIC MEDICINE.

BY

DR. SANDERSON

SUDDEN AND VIOLENT DEATHS.

Asphyxia.

SCHUCHARDT.—*On Death by Drowning.* Henke, vol. xlii, pp. 111—167.

The laborious series of researches of which this important contribution is the result, was undertaken for the purpose of obtaining a certain method of determining, in cases of drowning, the main medico-legal question whether or not immersion preceded death. It had long ago been ascertained by experiments on animals, as well as by observations on the human subject, that, in drowning, the weight of the lung is usually increased by at least half, the degree of increase varying with the number of inspirations which take place after immersion; but the value of this fact as a criterion is entirely destroyed by the absence of any exact knowledge of the normal weight of the organs, according to age, sex, and other modifying circumstances. It had also been ascertained that only a very inconsiderable increase of weight resulted from the injection of water into the air-passages of an animal previously killed by suffocation. Another test, founded on the same fact, is that recommended by Albert, which consists in the injection into the lungs of some coloured fluid, such as ink. If the whole lung becomes coloured uniformly, it may be assumed, according to Albert, that the individual was immersed after death, while the existence of portions of lung which retain their natural colour is considered to prove that those portions had been penetrated by water, and that death must have taken place by drowning. But the observations of this author have not been confirmed by those who have repeated his experiments, a circumstance which Schuchardt attributes to the uncertainty and inconstancy of the method employed, particularly as regards the degree of force used in the injection. In order to avoid this and other similar sources of error, the author took for his point of departure and comparison the normal per-centage of water in the whole weight of the lung, considering it probable that the increase of this per-centage in the bodies of drowned persons, in combination with the signs of drowning already recognised, would afford a certain criterion. For the purpose of working out this idea, the author undertook a series of experiments on rabbits and dogs, of which the following is a summary.

To determine the normal per-centage of water in the lungs, three rabbits and one dog were killed by pithing, and dissected after twenty-four hours. In each case the lungs were collapsed, and were of a bright-red colour. They were then removed from the thorax, along with the larynx, trachea, heart, and great vessels, and placed in a shallow porcelain capsule; the vascular connections between the heart and lungs were secured by double ligatures, after which the heart was removed, with the great vessels and pericardium. The lungs and windpipe were then weighed in the capsule, after which the organs were divided into portions, and submitted to evaporation at a temperature a little above boiling, which could be best effected over the chloride of calcium bath. It having been carefully ascertained that there was no further loss of weight by evaporation, the dry residue was again weighed. The results of these experiments are shown in the first four lines of the table. It was found that of the whole weight of the lungs (in rabbits), 79·6 per cent. was water and 20·4 solids. In the dogs the water amounted to 80·7 per cent., the solids to 19·3.

This being ascertained, the investigation was repeated on animals which had been drowned, in the following manner:—A full-grown rabbit, weighing 2040 grammes, was completely submerged in water which contained ·1 per cent. of ferrocyanide of potassium. After about a minute the animal became relaxed and motionless, with the exception that at intervals respiratory efforts were made, which ceased in three and a half minutes after submersion, but feeble pulsations of the heart were felt for another minute. The body was left in the water for twenty-four hours. The lungs were voluminous, filled the whole thoracic cavity, and almost concealed the heart. Their margins were rounded, and they felt doughy or spongy. They were of a dark-red colour laterally and posteriorly, but here and there exhibited the appearance of emphysema. The right side of the heart was distended with dark, slightly coagulated blood, the left nearly empty. The internal surface of the left ventricle and all the mucous membranes were coloured blue by chloride of iron, but no reaction could be observed in the right ventricle. The lungs were then treated in the same manner as in the previous experiments, with the exception that the windpipe was ligatured to prevent the escape of water. After the first weighing they were dissected in the capsule. The bronchial tubes were filled to their smallest ramifications with a white, frothy mass, and the parenchyma exuded on section a quantity of foamy serum. After evaporation the dry residue was found to weigh 2·07 grammes, the original weight of the lungs being 24·6 grammes. Hence, of the whole weight, 91·6 per cent. was water, and 8·4 per cent. solids. In the three other rabbits the results were similar, as shown in the table. The next question was that of the effect of immersion, practised after death by other means. This was illustrated by experiments on three rabbits and a dog, which were pithed, and then, fifteen minutes after death, placed in water, also containing a trace of prussiate of potash, in which they were allowed to remain for twenty-four hours. The mucous membranes of the mouth and palate were slightly coloured by chloride of iron, but no trace of this reaction was appreciable in the mucous membrane of the larynx, bronchial tubes, or parenchyma of the lungs. On opening the thorax the lungs were found to be collapsed, leaving the heart for the most part uncovered. They were of a bright-red colour, and exhibited no appearance either of œdema or of marginal emphysema, &c. The weight of lung, as determined in the first experiment, was 10·9 grammes, of the dry residue 2·15 grammes, which quantities give 80·4 as the per-centage of water contained in the organ. Lastly, it was inquired what effect would result from hanging the body in such a position as to favour the escape of water from the windpipe and bronchial tubes. A rabbit which had been drowned, and left eighteen hours in the water, was then hung up by the legs for eight hours. The appearances of the lungs on dissection did not differ materially from those recorded in the second series of experiments. Two other rabbits and a dog were treated in the same manner, the general result being that the per-centage by weight of water in the respiratory apparatus varied from 86·1 to 88·1.

In commenting on these results, the author dwells at great length on a hypothetical objection to their value, as affording a test of submersion, viz., that the increased weight of water in the lung might be accounted for by a transudation of serum, as in ordinary pulmonary œdema. He shows this to be inadmissible, on grounds which may be shortly stated as follows. According to the fifth experiment, the weight of the lungs in a drowned rabbit was 24·6 grammes, of which solids constituted 2·1 grammes. If it had been killed by pithing, the weight of its lungs (according to exp. 1—4) would have been 12·3 grammes, and of solids 2·5 grammes. Hence the total gain of weight was 12·3 grammes. The weight of solids being slightly diminished (from 2·5 to 2·1 grammes), it is obvious that, excepting in so far as transudation of solid matter had taken place into the water in which the animal was drowned, no liquid excepting water could have been added.

The author arrives at the general conclusion from his experiments, "that a proportion by weight of water to solids in the lungs that exceeds 90 per cent. affords proof that pure water has penetrated by the larynx into the air-passages and lungs," and hence that death has been produced by submersion.

The numerical results of each series of experiments are shown in the following table.*—

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* The second and third places of decimals have been omitted.

Animals employed.	Absolute weight of the lungs and air passages in grammes.	Per-centage.	
		Water.	Solids.
a. Killed by pithing			
1. Rabbit . .	11·6	79·8	20·2
2. „ . . .	10·8	78·9	21·1
3. „ . . .	9·9	80·1	19·9
4. Dog . . .	11·1	80·7	19·3
b. Drowned.			
5. Rabbit . . .	24·6	91·6	8·4
6. „ . . .	25.8	91·0	9·0
7. „ . . .	25·1	91·0	9·0
8. „ . . .	28·7	92·7	7·3
9. „ . . .	28·2	92·5	7·5
c. Placed in water after death.			
10. Rabbit . . .	10·9	80·4	19·6
11. „ . . .	11·1	79·5	20·5
12. „ . . .	10·4	81·0	19·0
13. Dog	10·2	81·2	18·8
d. Drowned, and then suspended by the hind legs.			
14. Rabbit . . .	16·6	87·5	12·5
15. „ . . .	11·9	86·1	13·9
16. „ . . .	18·5	88·1	11·9

BOUCHUT.—*On a new method of Docimasia Pulmonum by means of the Lens and Microscope, applicable to the Medico-legal Investigation of Infanticide.* L'Union, July 31st, p. 211.

This paper is founded on experiments on animals, and on numerous observations of the lungs of mature fœtuses before and after breathing. His conclusions are as follows:—When the lung of the mature fœtus is examined with a lens, the surface of each lobule exhibits, if respiration has taken place, the appearance of "a collection of very distinct, rounded vesicles, each having its luminous point, which are closely wedged together, and differ in size." The absence of these characters affords, according to M. Bouchut, a reliable indication that the infant has not breathed.

SZYMANOWSKI.—*Suffocation or Brandy?* Helsingfors, 1861, 8vo, pp. 88. Schmidt, vol. 113, p. 362.

On the 3rd of December, about 3 p.m., a sailor, aged 29, returned to his quarters excessively drunk, and was placed in confinement for his noisy and riotous behaviour. As he continued to make a great noise, he was ordered to be placed in a sitting posture on a bench, with his hands tied to a post behind him, and a gag in his mouth. The latter consisted of a round stick, an inch thick and nine inches long, and was kept in its place by a string attached to either end, and tied behind so as not to press on the sides of the neck, but on the nape. A quarter of an hour after this instrument was put on, he was found dead. On dissection, the body exhibited the signs of asphyxia, without any indication of external violence. In the opinion of the expert who made the inspection, the immoderate use of alcohol had mainly contributed to the arrest of the functions of respiration, which was the immediate cause of death, by the induction of congestion and impaired innervation of the lungs; but he was unwilling to express a decided opinion that the gag had anything to do with the result, for it could be shown that breathing was not at all interfered with by its use, so long as the nostrils were free from obstruction, as appeared in the present instance to have been the case. This opinion was reversed by the medical college of the district, who held that death was due to suffocation, in the production of which the gag was the instrument. Professor Szymanowski's pamphlet is devoted to the vindication of the opposite opinion—that brandy was the sole cause of death.

Death by Violence.

The Case of Samuel Gardner. The Times, Oct. 31st. Lancet, Dec. 6th. Med. Times, Nov. 15th.

About eight o'clock a.m., on the 15th of September, Mr. Sequeira was called in to see the wife of a sweep residing at 12, Northumberland Alley, who was said to have cut her throat. The body was lying on the floor, with the head supported against the door-post, and the legs extended. The whole of the surface felt cold to the hand, excepting that of the lower part of the abdomen. Both arms crossed the chest, and in the right hand was a knife, which was loosely grasped, with its back towards the wound. The wound was two and a quarter inches in length and one and a half inch in depth, being deepest on the left side. There were several severe cuts across the fingers of the left hand, such as might have been produced by grasping a knife, and similar slighter cuts on the right hand. There was a pool of blood on either side of the wound, but none on the chest below the clavicles. The opinion of Mr. Sequeira, that the wound (of which the description is imperfect) could not have been inflicted by the deceased with her right hand, and the other facts, led the jury to the conclusion that a murder had been committed. Of the two possible authors of the crime, viz., the husband of the deceased and a servant, the former was proved to have been absent for four hours preceding Mr. Sequeira's visit. Hence it became an important question, how long death had taken place at the time of his examination of the body. The medical opinion that the deceased must have been dead more than three hours, founded exclusively on the temperature of the body, as judged of by the hand, mainly conduced to the conviction of the prisoner.

Infanticide.

TOULMOUCHE.—*Studies on Infanticide and concealed or simulated Pregnancy.* Ann. d'Hyg., vol. xvi, p. 364; and vol. xviii, p. 157.

In an introductory chapter the author gives minute directions for the examination of the accused and the corpus delecti in medico-legal investigations relating to infanticide, and enumerates the special precautions to be used, and the various questions which require solution. He next proceeds to divide the inquiry into four sections. In the first he proposes to treat of infanticide by contusion of the head; in the second of infanticide by suffocation, strangling, and drowning; in the third, of those cases of infanticide in which the cause of death cannot be determined; and in the fourth of the signs of concealed and simulated pregnancy.

The first mode of infanticide usually consists either in striking the head of the infant against the ground or against a wall or in knocking in the head with a stone or clog. It occasionally happens that death is produced by concussion, without its being possible to discover any lesion, but more frequently the results of the injuries are sufficiently obvious. The characters of the lesions to be looked for are illustrated by seven cases, recorded in great detail, of which the following were the leading features :—In Case 1 there was an irregular but minute fracture of the right parietal bone, with depression and arachnoid hæmorrhage. From the form of the fracture and the characters of the depression, the author concluded that it was due to a blow inflicted with a soft instrument, of irregular shape ; it could not have been produced by a fall, for if so it would have been at the vertex, and would have assumed a longitudinal position, and there would have been no depression. In all the other cases the lesions were similar, death being occasioned by fracture of the parietal bones and hæmorrhage on the surface or in the substance of the brain.

Infanticide by privation of air is perpetrated by one of three methods—either by occlusion of the mouth and nostrils with the hands or with some article of clothing or other substance capable of being applied to those openings (suffocation), by strangulation, or by submersion. In cases of suffocation it is often impossible, from the post-mortem appearances, to determine the nature of the instrument used. There are often no external marks of violence, no foreign bodies or frothy mucus in the air-passages ; the only signs are fulness of the cerebral veins and sinuses and congestion of the lungs and other internal organs, appearances indicative that death has occurred by asphyxia. Of this variety of infanticide the author gives ten instances. In the first case infanticide was committed by stopping the mouth and nostrils. The victim was mature ; the thorax was expanded, the diaphragm depressed ; the larynx and bronchial tubes contained frothy mucus ; the lungs were crepitant, of a rose colour, and weighed 1-57th of the weight of the whole body. The cutaneous blood-vessels of the head, face, and of the cerebral membranes, were engorged with blood ; there was an effusion of blood at the base of the brain, and the whole of the venous system of the chest and abdomen was much congested. From these appearances it was concluded that the child had not died either of wound or hæmorrhage, and that suffocation was the sole cause of death. In the fourth case death was inflicted by the application of the hands to the mouth and nostrils or to the front of the neck. The internal appearances were similar. There were no traces of pressure about the neck or mouth ; the mode of suffocation was known only from the admissions of the accused. So also in most of the other cases ; but in the ninth the skin around the mouth, the nose, and the middle of the face, was pressed in, red, and ecchymosed, and on making incisions, "infiltrated blood" was found in the cellular tissue. In the tenth the traces were very indistinct. In the eleventh both lips were livid and swollen, the lower exhibiting a dark patch of ecchymosis. The preceding cases, remarks M. Toulmouche, are of value as showing the perfect uniformity and analogy of the internal lesions in cases of death by asphyxia. He is of opinion that if there be no foreign bodies in the fauces or nares, no mark of a ligature, and no "white or slightly coloured frothy foam" in the air-passages, these lesions afford sufficient ground for concluding that death has taken place by suffocation, and states that of the whole number of cases which have come under his observation, in which it was ascertained by collateral evidence that this was the mode of death, only a quarter exhibited traces of external violence.

In cases of infanticide by *strangulation* the larynx is occasionally compressed by the fingers, but more frequently a thin ligature is used, which, after passing twice round the neck, is tightened, so as to obstruct breathing. Accordingly the mark found after death is usually double, the two furrows being of unequal depth. The marks of compression by the fingers are sometimes livid and ecchymosed, sometimes exhibit the appearance of parchment, but not unfrequently are dead-white and without lustre. The skin between the impressions and on either side of the furrow of the ligature forms a "red rim, infiltrated with blood." Ecchymosis is sometimes confined to the subcutaneous cellular tissue, but occasionally extends to the sterno-mastoid and sterno-hyoid muscles or to those of the larynx. In some cases it is observed in the submucous cellular tissue of that organ; fracture of the laryngeal cartilages is a frequent result of this kind of violence. The parchment appearance is observed in a much less marked degree in infancy than at later periods of life.

Five cases illustrative of this form of infanticide are related, in which it appears that, with the exception that the laryngeal mucous membrane exhibits almost invariably a marked degree of redness, corresponding to the seat of violence, the internal lesions in cases of strangling do not differ in any respect from those observed in suffocation.

From facts derived from the twenty-five cases above referred to the author concludes that an emphysematous condition of the lungs arising from putrefaction is exceedingly rare, and that when it does occur it does not in any degree detract from the value of the lung test, for no condition of putrescence is sufficient to give buoyancy to the lung of an infant which has not breathed; that a lung which has been artificially inflated may be at once recognised by the circumstance that air only penetrates the anterior margin of the organ; that the meconium is expelled during the first hours of life, and that, consequently, the absence of this fluid affords an indication that the child has lived for some hours; that the umbilicus of a mature fœtus is not equidistant from the extremities of the body, as is maintained by Chaussier, but a little below the middle; and lastly, that the ratio stated by Plouquet to exist between the weight of the lungs and that of the body at maturity, viz., 1 to 70, does not hold good.

In cases of infanticide by submersion, whether in water or other liquids, Toulmouche enumerates the following lesions as most certainly indicating that the infant has been immersed alive:—Engorgement of the cerebral veins and sinuses with liquid, black blood; distension of the right cavities of the heart with the same liquid, with emptiness of the left cavities and of the aorta; congestion of the lungs; distension of the venous system of the liver; and a "general bluish tinge" of the skin, accompanied with pallor. But the most constant fact of all is that of "the existence in the bronchial tubes and their divisions of a frothy liquid, resembling whipped mucilage (*l'eau albumineuse battue*), sometimes white, sometimes rose-coloured or reddish, which escapes abundantly from all the cut extremities of the bronchial tubes, on pressing portions of lung between the fingers. When the body is immersed after death it rarely happens that even the smallest quantity of water enters the air-passages; but in drowning "it is a constant and certain fact that it penetrates both into the trachea and lungs," where it is found, not as water, but in the form of the mucous foam above described. Infanticide by drowning is illustrated by Cases 27 to 30. In some of these cases the victim was thrown into cesspools, or other receptacles for fæcal matter. In these, the formation of foam in the air-passages was inconsiderable, a circumstance which the author attributes to the density of the liquid. The same thing was observed in a case in which an infant was drowned immediately after a meal, and a quantity of chyme had found its way into the larynx and trachea.

A final section is devoted to four cases, in which it was impossible to assign a cause of death, owing to the length of time which had elapsed since the event. These cases were too various to admit of general description. The third part of this lengthy paper comprises the diagnosis of pregnancy in medico-legal cases, the detection of simulated pregnancy, and the signs of recent delivery. It contains no new facts of importance.

RYAN.—*Infanticide: its Law, Prevalence, Prevention, and History.* London, 12mo, pp. 266.

After discussing the present aspects and past history of infanticide in this and other countries, and particularly in the metropolis, and investigating the causes of its prevalence, the author advocates, as the best means of prevention, improved moral and general teaching, and "wise laws, prompt to punish the guilty, while beneficent in protecting the guiltless." As amendments of the law, he proposes that in charges of child-murder, the proof that the child met its death by violence should carry conviction of the crime, but that the punishment should vary according to the extenuating circumstances. As means of diminishing the inducements to infanticide, he asks that the putative father of an illegitimate child should be legally compelled to contribute, according to his income, to its support.

FORENSIC PSYCHOLOGY.

Testamentary Capacity.

GAIRDNER.—*Remarks on certain Medico-legal Aspects of the Maclean Will Case.* Edin. Med. Journ., p. 797.

The ground of this action, which was decided in the Court of Session, was, that in 1861 the testator was insane, or if not insane, "weak and facile, and easily imposed upon," at the time of the execution of the deed. Colonel Maclean, a military officer, æt. 82, who had served for forty-three years, for the most part in India, died at Cumbrae, after several "seizures of a supposed apoplectic or epileptic character." No post-mortem examination took place; but Dr. M—, his medical attendant, certified "softening of the brain, of nine months' duration," as the cause of death. Some of the attacks were stated to have been accompanied by unconsciousness and loss of the power of voluntary movement, others not. From the mode of death, Dr. M— was of opinion that the immediate cause was apoplexy. It was suggested by the prosecution that the symptoms above mentioned were merely the "terminal fact of a gradually developed insanity, commencing with a supposed attack of sunstroke, which had taken place seventeen years before." On the other hand, it was maintained by the defenders that there was nothing in the character of his last illness to support the theory that he was incapable of executing a valid will in 1856. It was further averred, on the part of the prosecution, that the housekeeper of the deceased had acquired undue influence over him, and that, to injure the relatives, she had obtained the disposition of the property in trust for charitable purposes, and afterwards secured for herself an annuity of £50. The pursuers were the heir-at-law and other relatives, the defenders were the trustees. As regards the main issue, whether or not the testator had capacity to execute such a settlement as he had left behind him, the Lord Justice Clerk directed the jury that it was neither a question of law nor of medical science. "It is a question for you, and you alone. . . . The test of his capacity to execute such a settlement may be very reasonably stated with reference to the nature of the settlement itself; but it cannot possibly be stated without reference to the settlement, because a man may have power of intellect sufficient to make one kind of mental exertion and be incapable of making another. If a person is capable of distinctly understanding what it is that he is doing, of expressing that purpose in intelligible language, and of understanding the consequences and effects of what he does, then he is capable of making such a settlement, and it is vain to go about scientific definitions." At the conclusion of the charge the counsel for the defendant asked his lordship further to direct the jury that if they were satisfied that the testator was of unsound mind, that would be sufficient, without proof that the deed was attributable to any insane delusions existing in his mind at the time. In this direction his lordship objected only to the term "unsound mind," as being vague, and added—"If the testator, at the time of making that deed, was mentally incapable of making it, then you will find for the pursuer, although there may be no insane delusion directly leading him to the making of the deed." "Thus," remarks Dr. Gairdner, "the capacity to make a will is, as a matter of fact, not to be invalidated by remote presumptions of insanity derived from collateral evidence of eccentricity of conduct, or even of physical disease of the brain, provided there exist ample proof of sufficient intelligence to conduct affairs rationally, and make a spontaneous and consistent disposition of property."

Responsibility of Criminal Lunatics.

BONNET.—*On Transitory Homicidal Mania.* Ann. Med. Psychol., vol. viii. p. 188.

This term is employed by the author to signify that supposed form of insanity which may exist without apparent disorder of intelligence, and manifests itself only in the criminal acts committed. In the first part of the paper he investigates the conditions under which homicide is committed by insane persons, and concludes that it is never perpetrated excepting during a paroxysm of blind fury, marked by the suspension of the will and the absence of all reflection, motive, or intention. The second part is devoted to the main question—the determination of the distinctive characteristics of transitory homicidal mania. All the recorded cases of monomania may be grouped under one of the three following heads, viz., those in which insanity is obvious and evident, those in which the crime is committed under the influence of violent emotion, and lastly those in which insanity is supposed to be manifested exclusively by the nature of the criminal act itself. The cases in the third category only, are referable to the form of insanity under consideration, cases in which the fatuity "commences with the crime, and ceases as soon as it has been accomplished." To the question whether such a form of insanity can be recognised as having a real existence, M. Bonnet answers in the negative, founding his conclusion on the examination of the grounds which have led medico-legists to the opposite opinion. These grounds have usually been—that the accused took no pains to conceal his crime, or even freely confessed the perpetration of the most flagrant atrocities; that he exhibited the greatest anxiety to prove himself sane; that the act was opposed to the whole tenor of his previous conduct; that it was entirely without motive, &c. The author endeavours to show that the reality of such indications is always questionable, and that any of them might be simulated by an individual well acquainted with the prevalent notions as to monomania. In the concluding section the author argues that the mere enormity and unnatural character of a crime affords no good ground for exempting the criminal from due retribution. "Such monomaniacs ought to be punished, because they act under the influence of a motive, which is not the less real because it is difficult to appreciate." It is matter of experience that other passions, less criminal, but not less irresistible, such as drunkenness, may be kept in check by the fear of consequences; and history teaches that moral epidemics of suicide, of mutilation, or of fanaticism, have been arrested by the same means. So also the irresistible passion for the shedding of blood may be mastered by the wholesome terror of prompt and certain punishment.

SANTLUS.—*On perverted expressions of the Will, and their relation to Imputation.* Henke, vol. xxiv, part 3, p. 1.

In an essay of 133 pages, the author enters on the never-ending discussion how far perversions of volition may exist independently of perversions of intelligence, and under what conditions and limitations, the former may afford ground for assuming, as regards actions committed under their influence, that the agent is irresponsible. Proceeding from the assumption that the inquiry has for its object to determine the relation between perversions of volition and of the other mental functions as a whole, the author divides the subject in several sections, discussing first, the relation of consciousness to other mental manifestations, particularly to those of the will, as exercised normally; secondly, the perversions of mental function which result from the interruption of this relation, and their bearing on responsibility.

Without following the author into the intricacies of the subject, the general tendency of his argument may be understood from the following condensed statement of his conclusions as to the question of imputation.

The employment in psychology of such expressions as freedom of the will, or the opposite, is considered by the author to be erroneous, for it is impossible to conceive of the will being otherwise than free, without the destruction of its very essence. The idea of freedom, and consequently of responsibility, attaches itself not to the mental state, but to the action, and belongs, not to the province of the psychologist, whose business it is to determine the normality of the psychical condition of the individual, but to that of the jurist, who judges of the action without relation to the mental state of the agent. The domain of psychology being thus limited, the author proceeds to show that irresponsible action always results from loss or impairment of consciousness of the motives whereby the action is governed. Whenever the conception of the motive possessed by the agent, at the moment that the action is perpetrated, can be shown to be imperfect, responsibility is no longer possible, for he is incapable of completing the mental process by which the impulses to action are determined and controlled. In the term "motive" the author includes, not merely the purpose or intention of the action, but everything which tends to prompt, modify, or restrain it. Thus, any imperfection in the conception enjoyed by the agent, either of his own individuality or that of the object, or any deficiency in his comprehension of the results of his action, is regarded as a defect of "consciousness of motive" (*Motivbewusstsein*), and as rendering the agent incapable of responsible action.

THOMSON.—*Statistics of Prisoners; cases of Homicidal Mania.* Edin. Med. Journ, No. 84, p. 1109.

In all cases of homicidal mania resulting in homicide in Scotland, the accused is committed for custody to the lunatic department of the General Prison. This paper is founded on the cases of 24 such prisoners admitted since October 1846. Of the whole number, 16 were males, 8 females; 2 have been liberated (the insane act having been committed, in one instance, during an attack of puerperal mania, in the other of delirium tremens), and 8 have died, in none of whom any cerebral lesion was detected after death; 14 remain, and are now in good health. It is notable that the social position of these prisoners is superior to the average; none of them belong to the criminal or dangerous classes of society. All of them acted without accomplices and in no instance was any attempt made to deny or conceal the act. Two of them had killed several persons at a time, and several of them, in addition to the fatal act which led to their confinement, had attempted the lives of others; 5 had also attempted suicide. Out of 27 victims, 18 were nearly connected by consanguinity with their murderers. Of the 24 cases, 8 were of homicidal monomania (sudden impulse to destroy life, without any obvious symptoms of insanity), and show "that the homicidal act may be committed under a transitory fit of monomania, the actor being apparently of sound mind before and soon after the act." The following is a summary of the most important cases :—A. M'P—, aged 26, an agricultural labourer, was accused of murdering his father, mother, and aunt, in one night. With no previous premonitory symptoms, he became subject to the delusion that he was the brother of the Saviour, and had a divine commission to destroy all in the island (one of the Hebrides.) Under this delusion, he first lay in wait for the priest (he had before been a devout papist), then for one of his brothers, and finally rose

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in the middle of the night and cut the throats of his father, mother, and aunt, after which (as he subsequently stated) he felt in an ecstasy of pride and exultation. He was admitted to the General Prison two or three months later. While he was an inmate, with the exception of paroxysms of remorse, his mental state was normal, and continued so for four years. At the end of that time he became furiously homicidal, having previously warned his keepers to be on their guard. The paroxysm passed off gradually, since which he has been "a devout, quiet, and tolerably sensible man." A. M—, aged 23, a sailor, who had had three previous attacks of homicidal insanity, became subject, after hard drinking, to terror, sleeplessness, and delusions, under the influence of which he suddenly stabbed his grandmother, with whom he resided. In this case each paroxysm was preceded by alcoholic excess. On the evening of the day on which the crime was committed he was calm, quiet, and rational, and has since enjoyed uninterrupted health of body and mind. E. P—, aged 38, under a sudden delusion, without previous indication of insanity, threw herself and her two children into a canal; one of the children was drowned. Since her admission it has not been possible to detect any delusion or mental aberration. A. M'K—, aged 28, an abandoned woman, under the influence of "revival" preaching, became suddenly subject to terror of future punishment. One night she rose and cut her child's throat and then her own. Shortly after, she became quite collected, and attributed her act to the prompting of the devil. She has since exhibited no indications of insanity. For details of the remaining sixteen cases, which are referred by the author to another category, that of homicidal mania (general insanity existing before and after the homicidal act), and are therefore of less medico-legal importance, we refer the reader to the original.

YELLOWLEES.—*Homicidal Mania, a Biography, with physiological and medico-legal comments.* Edin. Med. Journ., No. 86, p. 105.

In this paper is related the history of William Smith, for more than twenty years the most dangerous inmate of the Royal Edinburgh Asylum. The case was of importance, in a medico-legal point of view, as one in which a succession of acts, of the criminal nature and consequences of which the agent was perfectly aware at the time of their commission, were perpetrated under the influence of an insane and irresistible impulse. His insanity first manifested itself, more than ten years before his confinement, in the unreasonable vindictiveness with which he resented slight or imaginary injuries, and the violence of language and action in which the spirit of revenge often betrayed itself. In the progress of time he became more and more violent, until, in 1840, in consequence of a murderous threat addressed to the Lord Advocate, he was apprehended and removed to Morningside. During the first eight years of his residence in the asylum, he committed three murderous attempts on the medical superintendent or attendants, for one of which attempts he had been several months engaged in contriving a weapon. There was no reason for supposing that on any of these occasions he entertained any personal antipathy to the victims of his blood-thirsty passion, or that any motive influenced him excepting the belief that his confinement in the asylum formed part of a general system of oppression to which he had been long subjected. During the whole of his life he was addicted to writing ephemeral pamphlets and doggerel verses, some of which were immensely popular. He died at the age of 73, retaining to the last his poetical and homicidal tendencies. The author points out that, in accordance with the well-known medico-legal principle laid down by the fifteen judges in 1843, in answer to the questions on the subject of responsibility submitted to them by the House of Lords, this madman would certainly have been considered sane. The judges then stated that before a plea of insanity can be admitted, undoubted evidence must be adduced, not merely that the accused is of diseased mind, but that at the time of committing the act he was not conscious of right or wrong. In the early part of his history the habits and demeanour of this lunatic were those of a sane and intelligent man, and he was perfectly aware of the criminality of his acts, so that there can be no doubt that a jury of ordinary men would have regarded him as fully responsible for the consequences of his blood-thirsty attempts, had they been successful.

PAYEN.—*Medico-legal Report on the mental state of J. F. Pagez, convicted of the murder of his two children.* Ann. Med.-psychol., vol. viii, p. 41.

Pagez, aged 56, was accused of having murdered his two daughters on the night of the 5th of July, 1861. The author was called upon to determine whether at the moment of the crime "he was affected with a monomania which prevented him from appreciating the moral nature of his act."

Pagez lost his wife in 1857, with whom he had lived on terms of constant affection. Since her death he had devoted himself to his family, consisting of a son and four daughters, two of whom were married and two lived with him, the elder having charge of his money, keeping his accounts, and enjoying his entire confidence. He had never been considered insane, but it appeared that he had given evidence of eccentricity. In 1852, consequently on the loss of a law-suit, he had on one occasion left his house without motive, wandered about the country, sleeping in the open air in winter, and living on farm produce that he had pilfered, for which he was at that time arrested and imprisoned.

During the year preceding the murders he had lost his health, and had become incapable of exertion. He kept much in bed, and became melancholy and morose, but never expressed any ill-will either towards his children or others. As time went on the desire of solitude grew stronger, and along with this the homicidal impulse gradually took possession of his mind. "Towards the end of February," said he, "the idea of killing my children first came to me. Still my own master, I was unable to sleep. I felt a weight on the stomach (placing his hand on the epigastrium); I had headache; I could not eat; I forgot even to take snuff, which was so indispensable to me." This state of things continued, with occasional remissions, until, according to his own relation, he rose three successive nights from his bed to kill his children. "The first night, I went out into the yard to try to absent myself from this bad business, and, after half an hour, came in again tranquil. The second night I also went out, but returned and lighted my candle and walked up and down, with my razor in my hand, looking at my children with strong affection, for I was striving to keep myself back; I was not strong enough. I put back the razor, and went to attend to my cattle. The third night I went out several times and came back '*mauvaisement*,' to do the deed. I was ready." He then relates the manner in which he accomplished his crime. After its accomplishment he stated that he experienced a great relief, but immediately dressed himself and ran off at full speed into the woods. There he remained for seven days without food, until, pressed by hunger, he returned to his village, drank from his own well, was seen by a neighbour, and arrested. Pagez had been subject from his youth to copious epistaxis, and it appeared that at the time he first became subject to the idea of homicide this hæmorrhage had suddenly ceased. The author observes that the manner in which he related the details of his crime and the good sense of his answers are evidences of the rectitude of his judgment, so that, if we are to suppose that in its accomplishment he yielded to an irresistible impulse, "a perversion of the will," we must admit this condition to have been transitory, and in this case the act did not appear to have been committed either in obedience to the suggestion of an erroneous sensation or to any absurd or unreasonable idea, but to a kind of "automatic determination," which he was unable to resist, although preserving "the integrity of his reason and the complete consciousness of his actions." As being incapable of crime, though dangerous to society, Pagez was placed in the asylum at Orleans.

BILLOD.—*Medico-legal Report on the case of Lacoste.* Ann. Med. Psychol., vol. viii, p. 10.

HOSPITAL.—*Medico-legal Report on the mental condition of Joseph Tixier, accused of three murders.* Ann. Med. Psych., vol. viii, p. 113.

ETOC-DEMAZY.—*On a case of Suicidal and Homicidal Mania.* Med. Psychol., vol. viii, p. 223.

BILLOD.—*Report on the mental state of Marie Kerdal, accused of attempting to poison her master.* Ibid., p. 213.

COMBES.—*Report on the mental state of Christina R—, accused of incendiarism.* Ibid., p. 237.

The above cases, all of which present peculiar points of considerable interest, are too long to be abstracted.

REPORT ON PUBLIC HEALTH.

BY

DR. SANDERSON.

GAIRDNER.—*Public Health in relation to Air and Water.* Edinburgh, 8vo, pp. 369.

The purpose of this work is to teach students of medicine the elementary principles of modern sanitary science, and to claim from the public for the medical profession "the rightful influence which springs from its natural position in relation to sanitary matters." In the introductory chapter the author gives an account of the sanitary legislation of the Pentateuch and that of the Greeks and Romans, both of which strongly contrasted with the absence of all care for the preservation of health which, until the present century, has characterised the nations of Christendom. The author points out that the degraded social condition, moral as well as physical, of the urban populations of mediæval Europe was the inevitable product of the ascetic spirit of the time, and traces its results in the frightful prevalence of mortal diseases, and in particular in the vast epidemics which spread over Europe in the fourteenth and fifteenth centuries. At that time the only prophylactic thought of, was to flee contagion and separate the infected, and the only recognised cause of pestilence was the Divine will. In the remainder of the chapter the author traces the gradual but rapid development of modern preventive medicine; and, in conclusion, vindicates the claim of air and water to be regarded as the main agents both in the production and prevention of disease, their stagnation leading to the former results, their increased movement and circulation to the latter. As regards sanitary organization, Dr. Gairdner advocates the adoption in Scotland of the principle of local government to the fullest extent, with the addition of a central authority, whose functions shall be limited, like those of the Privy Council in England, to inquiry and advice. The administration of sanitary laws should be vested in local authorities exclusively, acting under the guidance of medical officers of health charged with the work of sanitary inspection.

MEDICAL STATISTICS.

FARR.—*On the Modes of calculating the Death-rate of a Population.* Med. Times, June 14th.

In this lecture the author explains the methods employed by statisticians for determining the rate of mortality, and points out their various degrees of accuracy. The rate of mortality being a ratio between three elements—1, living men; 2, time; and 3 deaths—one of which elements cannot be determined directly (for it is practically impossible to enumerate the numbers living in any district at any given moment), the statistician is compelled to resort to indirect methods, which furnish either exact or proximate results, according as (*a*) the population is known or assumed to be stationary, (*b*) the population increases by equal numbers in equal times, or (*c*), as is usually the case, the population increases in equal proportions in equal times. The last case is illustrated by examples taken from the vital statistics of England. In the second part of the paper the author shows that the expectation of life or, as he calls it, the mean after-life-time, can be deduced from the rates of mortality at the several ages, and explains the method of determining the number of survivors out of a given number born at the end of each year of age, from 0 to 100, or, in other words, the construction of a life table.

BERTILLON.—*Studies in Pathological Geography, being researches and statistical conclusions on the comparative mortality from Pulmonary Phthisis in the Canton of Geneva, in England, Belgium, and certain towns of France, and on the mortality from Phthisis of the Army and Navy.* Ann. d'Hyg., vol. xviii, pp. 102—140.

The purpose of this paper is to show that the investigation of the mortality from phthisis is not only one of the most important branches of statistical inquiry, but one of the most practicable, provided that the inquirer is furnished with complete information as to the *ages* of the living and dying. He laments that, for want of such information, he is compelled to reject the public mortuary records of his own country, and to found his conclusions mainly on those of England, Geneva, and Belgium. In these three countries the annual mortality from phthisis $\left(\frac{\text{number of deaths from phthisis} = \delta}{\text{population} = \text{P}}\right)$, the relative prevalence of phthisis as compared with other causes of death $\left(\frac{\delta}{\text{D}}\right.$ where D signifies the mortality from all causes), and the liability to death from phthisis at those periods of life in which it is most fatal $\left(\frac{\delta_n}{\text{P}_n}\right)$ are succesively investigated. The ratio $\frac{\delta}{\text{P}}$ varies in the three countries from 25 to 49 per 10,000. It is highest in Limbourg, a province of Belgium, lowest in Luxembourg, a contiguous province of the same country. The ratio $\frac{\delta}{\text{D}}$ varies from $\frac{1}{8}$ to $\frac{1}{5}$. It is lowest in London, where the deaths from phthisis constitute 115 per 1000 of the general mortality; highest in Limbourg. The two relations are not consistently contradictory, but the results derivable from them are apparently irreconcilable. The one demonstrates that phthisis is a more frequent cause of mortality in the province of Namur in Belgium, than in Paris or London; the other that the mortality from phthisis is greater at Paris than in London, greater in London than in Namur. The author proceeds to show that the ratio $\frac{\delta}{D}$ is entirely valueless as an index of the liability of the population to phthisis. It must be so, because it is founded on the fallacious assumption that the ratio of the total mortality to the population is constant, whereas it is subject to variations which have no relation whatever to the prevalence of the particular cause of death to be investigated. On the other hand, the ratio $\frac{\delta}{P}$ loses much of its value as an exponent, from the vagueness with which the term phthisis is employed, in assigning the cause of death as regards affections of early infancy and old age, and particularly from the fact that, in the mortuary statistics of Belgium and Paris, a considerable number of cases of bronchitis of infants and old people are included among those of consumption. In consideration of this uncertainty, and of the fatality of phthisis between the twentieth and fortieth year of life, M. Bertillon argues that, in the comparison of one country with another, the ratio $\frac{\delta\ 20\text{—}40}{P\ 20\text{—}40}$ is a more exact and reliable index than any other. Judged by this criterion, the several countries which form the subject of inquiry stand in the following order, the number after the name of each expressing the mortality from phthisis per thousand of those living between the ages of 20 and 40 $\left(\frac{\delta\ 20\text{—}40}{P\ 20\text{—}40} \times 10{,}000\right)$:—Luxembourg (23), Namur (31), Geneva (36), Limbourg (39), Belgium (40), Flanders (42), Paris (42), England (44), London (50). So that at that period of human existence during which life attains its maximum of value (both actual and prospective) the liability to death by consumption is considerably greater in London than in Paris, and more than twice as great in the former as in the eastern provinces of Belgium. The author expresses the hope that the causes of these differences may prove not to be beyond the reach of scientific inquiry, and that, in the impotence of therapeutics, hygiene may be destined to rescue from this, the greatest scourge of humanity, a large proportion of its victims.

MEDICAL METEOROLOGY.

PFAFF.—*On the Influence of Atmospheric Ozone on the Diseases of Man.* Henke, vol. xxii, p. 189.

The author's observations were made at a height of 1050 feet above the level of the sea, and are said to have been conducted with the greatest exactitude. He found that ozone was occasionally entirely absent; that it might be met with in all directions of the wind; that it was most abundant during storms and changes of weather. As regards the main question, his conclusions are as follows:—Excess of ozone in the air is prejudicial to diseased respiratory organs. When the ozone reaction is intense, patients suffering from phthisis or bronchitis should strictly keep to the house. Ozone has no effect on epidemic diseases, but favours the development of inflammatory affections, particularly of tonsillitis.

HOSPITALS.

GUY.—*On the Mortality of London Hospitals.* Brit. and For. Med. Rev., No. lxi, p. 199.

Dr. Guy has investigated the returns of the mortality of the general hospitals of London during the year 1861, recently published in the 'Journal of the Statistical Society,' with reference to all the general conditions by which they are likely to be affected. His conclusions are as follows:—The influence of *locality* is very inconsiderable; thus, it appears that in the hospitals on the north side of the Thames, where the general death-rate of the population is lower, the mortality does not differ from that which prevails in the hospitals which lie south of the river (viz., 96 per 1000); again, the west-end hospitals present a higher mortality by 4 per 1000 than those at the east end, where the local sanitary conditions are inferior. Other examples are stated, showing that the mortality of hospitals, of which the situations are most diverse, are often nearly the same. As regards *structural arrangements*, a similar diversity is met with, and appears to have as little effect on the mortality. The *cubic space* is greater at King's College Hospital than in any other; but notwithstanding this, the mortality is 107 per 1000, that is, greater by 11 than that of Guy's or St. Thomas's. By dividing the hospitals of London into groups according to the number of inmates, and comparing the average mortality of each group with those of the rest, it is shown that *size* exercises no direct influence, for the highest mortality is met with in the group next above the smallest in size, and the lowest in the smallest. The negative character of these results leads the author to look for a solution of the question at issue in the *selection of patients.* The selection by one hospital of a more serious class of cases and by another of cases of a more trivial character is in itself sufficient to account for any such differences of mortality as are met with, and a consideration of the circumstances of the several London hospitals as regards selection, serves to confirm the surmise that this is the real cause of the diversity. For it is precisely in those hospitals "in which the attendance of a numerous class of pupils craving for instruction leads naturally and necessarily to a selection of severe and dangerous cases," and to which "practitioners who have formerly been pupils are in the habit of sending cases of a similar character, that the highest mortality prevails."

BOINET.—*On the causes of the Unhealthiness of the Hospitals of Paris, and the means of obviating it.* L'Union, Jan. 1st, p. 7.

After showing that in the great central hospitals of Paris, such as the Hôtel Dieu, the mortality among surgical cases is twice as great as in the smaller hospitals (*e. g.* Hôp. Necker), and that in those which have been enlarged during the last twenty years the annual per-centage of deaths has increased with the increase of the number of inmates, the author argues that the only means by which the proportion of cases can be augmented, and the duration of treatment per case diminished, consists in the substitution of small hospitals, constructed in accordance with scientific principles, and occupying less central situations, for such immense establishments as the Hotel Dieu and the Charité, in each of which he proposes that the number of beds should be reduced to 250, a number merely sufficient for clinical instruction and for the reception of urgent cases; that the wards should not be allowed to hold more than two beds; that they should be separated from each other by freely ventilated spaces; and that, for the more severe operations, wards containing only three or four beds should be specially reserved, not communicating in any way with the rest of the hospital.

LARREY.—*On the Hygiene of the Military Hospitals of France.* Paris, 8vo, pp. 64.

The author holds that the smaller the wards of an hospital, and the fewer beds each ward contains, the better for the health of the inmates. The space allotted to each individual should not be less than 1000 cubic feet, the intervals between the beds not less than three feet, and about twelve feet between each range of beds. He recommends that the wards should be periodically emptied and lime-washed every year or six months, that they should be swept every morning immediately before the morning visit, and that the floors should be so constructed as to admit of being kept clean without scouring. Curtains have already been discarded in the military hospitals. He further strongly insists on the importance of a substantial and restorative diet, as constituting, along with a plentiful supply of air, the main cause of the comparatively favorable results of great surgical operations in London. Of these improvements, he regards the *multiplication,* as opposed to the *enlargement,* of hospitals, and the diminution of the number of beds which each contains, as most important.

DISINFECTION.

LETHEBY and HAYWOOD.—*On the application of Charcoal to the Ventilation of Sewers.* Chem. News, vol. viii, p. 104.

For the purpose of determining whether the well-known property of dry charcoal, of absorbing and oxidizing the volatile products of putrefaction, could be usefully applied to the disinfection of the air of sewers, a number of "air-filters," each consisting of a series of horizontal trays charged with small fragments of wood charcoal, were fixed in 104 ventilating shafts of sewers in the city of London. The results of the experiment were as follows:—1. The deodorizing power of the charcoal was proved to be complete. It was found that the fragments, after long use, not only contained alkaline nitrates, but were impregnated with fetid nitrogenous compounds, which, however, could not be separated. 2. The duration of the power of deodorization of one charge of charcoal was insufficiently tested, but it was found that the substance lost much of its efficacy when saturated with water, so that, in consequence of the constant moisture of the sewer atmosphere, it became useless long before its deodorizing power had become exhausted. 3. The question of effect of the application of charcoal on the general ventilation of the sewers is one upon which the authors "are unable to pronounce a very positive opinion." But they have reason to believe "that the danger to the workmen in the sewers has not been materially increased." Experiments with the anemometer gave no indication that any movement of air took place through the "filters." No evidence could be obtained of increase of effluvium in the interior of dwellings during the experiments, nor did the mortality or sickness returns indicate an unusual amount of disease of a pythogenic character. As the general result of their inquiry, the authors are of opinion that "charcoal filters may be used with efficacy in the course of the air-channels from the drains and closets of houses, as well as in the ventilation of the public sewers, care being taken to ensure their protection from moisture, and preference being given to those forms of filter which offer least resistance to the free passage of air."

OCCUPATIONS.

GREENHOW.—*On the circumstances under which there is an excessive Mortality of Young Children among certain Manufacturing Populations.* Appendix to the Fourth Report of the Medical Officer of the Privy Council, p. 187, London, 1862.

The inquiry of Dr. Greenhow relates to the causes of the high mortality of infants in towns in which females are largely occupied in factory labour. It is shown that the unwholesome influences to which infants are exposed in such towns may be attributed mainly to the industrial employment of the married women, which leads them to consign the care of their infants, at a very early age, to young children or strangers. Factory women soon return to their labour after their confinements. When at work they are absent from home all day long, excepting during the dinner-hour. As a necessary consequence, the infants are fed on diet ill adapted to their digestive powers, and are very frequently drugged with opiates in order to allay the fractiousness arising from illness. Parents who thus entrust the management of their infants to strangers become indifferent about them, and "as many of these children die, the mothers become familiarised with the fact, and speak of the deaths of their children with a degree of nonchalance rarely met with among women who devote themselves mainly to the care of their offspring."

Dr. Greenhow found that, among the married women employed in certain factories, two thirds or three fourths of the children born, had died in infancy.

GREENHOW.—*Second Report on Districts with excessive Mortality from Lung Diseases.* Fourth Report of the Medical Officer of the Privy Council, 1862, pp. 138—196.

Dr. Greenhow's second report relates to the metal manufactures of Birmingham and Wolverhampton, to the silk manufacture and watch-making of Coventry, to the cotton manufacture of Blackburn, and to the lace-making and hosiery manufactures of Nottingham.

The author has shown as regards almost all of the indoor occupations, that the defective ventilation of the rooms in which the workpeople follow their employment acts as a cause of pulmonary disease, independently of those special unwholesome conditions which are associated with many industrial processes; and that this evil is not only in existence in factories, but that it affects in a greater degree those industries which are followed in the houses of the operatives, and in which the work-place is identical with the dwelling. It is further shown, as regards certain special branches of the most important of our manufactures (particularly the textile manufactures, those of earthenware, china, steel, and iron), that nearly all who are employed break down prematurely with lung disease, commencing as bronchitis, but often resulting in irreparable destruction of the texture of the lung, and that this arises from the inhalation of a notable quantity of finely divided metal, stone, fibre, or other material used in the several occupations referred to.

In the dry grinding of steel instruments, although much good has been effected by drawing off the dusty air from the grinder's wheel by rapid mechanical aspiration, it appears that the occupation is still hurtful, partly from the inefficiency of the apparatus used, partly because other processes productive of dust are carried on in the same workshops. Several times a day the worn surface of the grind-stone requires roughening, in which process clouds of grit become diffused, for the removal of which no effectual method appears to have been discovered.

In several processes in the manufacture of earthenware, particularly in scouring the baked china with sand-paper (a process in which female labour is exclusively employed), and in the drying by artificial heat of plates and other similar articles fashioned by moulding, the operatives suffer as severely as dry grinders by the light and almost impalpable dust which is diffused in the atmosphere. In most potteries it appears that no precautions are used to counteract this evil.

As regards textile manufactures, the most important in relation to the danger to health incurred by the workman are those of cotton and flax. Those who are employed in the carding-rooms of cotton factories inhale an atmosphere loaded with minute fibrils of cotton, and suffer severely from pulmonary affections. So, also, in the process of hackling flax, the workmen rarely attain middle life without becoming affected with pulmonary disease. Dr. Greenhow found three out of four of the workmen suffering from bronchial irritation, and in a quarter of these cases there had been hæmoptysis. In both these manufactures it appears that, although it is not for a moment doubted that effectual means of mechanical ventilation might readily be devised, no such means have been actually employed.

The author's researches further show that, with one remarkable exception, all miners become early affected with bronchitis or phthisis. Even at an early age the respiratory mucous membrane begins to suffer. Hoarseness and slight oppression at the chest are succeeded by dyspnœa, cough, and expectoration, the sputa being often admixed with whatever dust or soot has entered. In those predisposed to phthisis the disease rapidly develops itself; in others, the bronchitis becomes chronic. Acute attacks recur at frequent intervals, the repetition of which tends to increase and aggravate the more permanent symptoms. That these results are in reality attributable to the defect of ventilation is strikingly illustrated by the single exceptional fact above referred to, namely, that the coal miners of Northumberland and Durham, where the collieries are almost invariably completely ventilated, enjoy as long and healthy lives as other classes of the community.

HANNOVER.—*Diseases of Artisans, according to the Reports of the Civil Hospitals at Copenhagen.* Ann. d'Hyg., vol. xvii, p. 294.

The purpose of the author is to determine the degree of frequency of internal diseases among artisans. The existence of guilds, and the strictness with which these guilds are limited and defined, in Copenhagen, afford great facilities in ascertaining the prevalence of diseases among the members of each trade. Of 9837 males admitted into the hospitals of Copenhagen in five years, 3681 were artisans and 6156 non-artisans. On comparing these numbers with those of each class in the population of the city, it appears that 33·1 per cent. of the whole number of artisans, but only 12·2 per cent. of the whole number of non-artisans, were admitted during the period in question. Of those admitted, 1387, or 14·1 per cent., died, viz., 10·2 per cent. of the artisans and 16·4 per cent. of the non-artisans. After analysing the admissions and deaths in relation to the various diseases affecting persons of each class of occupation, the author proceeds to examine each disease separately. He has devoted most attention to the subject of phthisis, in reference to which he concludes that workmen habitually exposed to moist air, or engaged in the manufacture of damp materials, such as dyers, tanners, tobacco-workers, and rope-makers, are rarely phthisical; that those who work in the open air enjoy the greatest immunity, while those who spend the whole of their time of labour in close and foul workshops (tailors, weavers, jewellers, printers, and shoemakers) are more liable to pulmonary tubercle than any others. The author also attaches much importance to the maintenance of the sitting posture, with the body leaning forwards, as a predisposing cause to consumption; whereas, on the contrary, such labour as is performed in the erect posture, and requires a considerable exertion and repeated muscular movements, appears to him to exercise a most favorable preventive influence. The paper also contains important statistical information as to the liability of persons of various occupations, to mental diseases.

VERNOIS.—*On the Hands of Labourers and Artisans, considered in relation to Legal Medicine and Hygiene.* Ann. d'Hyg., vol. xvii, p. 104.

The purpose of M. Vernois' paper is to point out the best means of obviating some of the inconveniences and dangers incident to various branches of industry, and to determine the value of the alterations of the hand, resulting from the exercise of various occupations, as characters of identification. The essay is divided into three parts: the first comprises 150 observations of the lesions observable in various trades, in respect of each of which the manner in which the several lesions are produced is discussed; in a second division the author generalises the preceding facts; and in conclusion defines the value and significance of each alteration as a pathognomonic sign of the cause which produced it. His most important conclusions are as follows:—Attenuation and abrasion of the cuticle is much more characteristic than thickening. It is observed in a marked degree in a few occupations only, which differ remarkably in their general nature, *e.g.* in the manufacture of catgut, in the collection of ants' eggs for feeding pheasants (action of formic acid), in hairdressing, in the preparation of sheepskins, in the winding of silk from the cocoon, in shelling pease, in the manufacture of mother-of-pearl, &c. The paper is illustrated by life-like chromo-lithographs.

EULENBERG.—*On the Diseases of Stonecutters and Masons.* Pappenheim, part iv, p. 56.

This inquiry is based on the mortality and diseases of persons following these occupations, recorded at Cologne during a period of twenty years. As the number of persons employed in each year was known, the results are comparable with other statistics. The mean annual mortality from phthisis during the period was 28 per 1000, and from all other diseases 29·6, so that the deaths from consumption constituted 91 per cent. of the whole number. The average duration of life is thirty-seven years. As there is no doubt that the excessive pulmonary mortality arises from the inhalation of dust, the only effectual preventive measures are such as act by intercepting its entrance into the air-passages. With this view the author emphatically recommends a mask of his own contrivance, which protects the mouth and nostrils. It consists of a frame of wire-work, covered with gauze.

MILROY.—*The Health of the Army and Navy compared with each other.* Trans. Ass. Soc. Sc., 1862, p. 547.

In most of the circumstances and conditions which affect health, such as age, food, clothing, and medical care, the occupations of the soldier and the sailor resemble each other. There are, however, several points of circumstantial difference between them, which must influence the results of a comparison of their state of health. To two of these the author refers, viz., the difference in the duration of service (the engagement of the sailor being for periods which never exceed five years, whereas the soldier enlists for ten or twelve years), and the fact that the sailor is more exposed than the soldier to various injuries and accidents (*e. g.* drowning), which materially influence the death-rates. The present paper is founded on the comparison of naval and military statistical returns relating to the home, the Mediterranean, the West Indian, the Australian, the East Indian, and China stations. To determine the state of health of the army and navy, the amount of all the deductions or losses caused by sickness or injury from the effective strength of our troops and ships' crews must be ascertained. These losses are either temporary (average daily proportion of men on the sick list and annual number of admissions into hospital) or permanent (annual number of men dying or invalided). A comparison of the two services, in respect of these particulars, shows that the daily sick-rates per thousand on the home, Mediterranean, West Indian, Australian, and East Indian stations, were severally 50, 48, 53, 27, and 99, in the army, and 50, 52, 58, 46, and 93, in the navy; that the annual death rates stated in the same order were, 8, 13, 17, 10, and 47, in the army, and 10, 10, 24, 10, and 47 in the navy. The annual invaliding rates were, 13, 8, 5, 9, and 27, in the army, and 23, 24, 25, 39, and 52, in the navy. From the numbers last quoted it appears that the invaliding rate is twice or thrice as high in the navy as in the army.

The causes of sickness and mortality are much alike in the two services;

half of the cases of sickness are of syphilitic and cutaneous diseases and external injuries, neither of which groups contribute materially to the mortality. Of the admissions into hospital from the army in the United Kingdom, nearly half are due to syphilis, so that the inefficiency arising from this cause amounts to the annual loss of service of three entire regiments. The diseases which cause the greatest amount of mortality among our soldiers and sailors are fevers, alvine fluxes, and affections of the respiratory organs. As regards fevers, it is strikingly evident, from various facts related by the author, that their prevalence is mainly dependent on the overcrowding and impurity of the ships and barracks. As regards alvine flux, the worst station is that of China, one half of the deaths among the garrison of Hong Kong being caused by diarrhœa and dysentery. On the home station the respiratory diseases occasion more admissions into hospitals than all fevers and alvine fluxes together, and more than three times as many deaths; but this difference between the stations disappears when the respiratory mortality (of which four fifths is from phthisis) is compared with the effective strength. Thus it appears that the respiratory death-rate is as great on the West Indian station as at home. This fact the author attributes to the still overcrowded state of the barracks and the between-decks of ships of war.

McWilliam.—*On the Health of Merchant Seamen.* London, 8vo, pp. 10.

The statistical tables which form the basis of this paper show that while in the navy the mortality of sailors employed on the home station does not exceed eleven per thousand, the corresponding proportion among merchant seamen serving on home voyages is twenty-four per thousand, and that the annual number of deaths on board merchant ships of all classes during eight years preceding 1860, whether on home or foreign voyages, was twenty per thousand. This heavy death-rate, the author connects with the crowded and airless condition of the sleeping-berths, the foulness of the cabins, and the fact that many trading vessels are sent to sea insufficiently provided with medical and other comforts and with prophylactic medicines.

Rose.—*Medical and Topographical Notes on China.* Lancet, June 14th.

This paper relates to the sanitary condition of the navy and mercantile marine at Shanghai, and particularly to the prevalence of dysentery. Among the causes of the unhealthiness of the port, he refers to the use of the water of the river, which reaches the town loaded with organic impurity, and becomes still more foul by the addition of the excrements of an immense population; to the dampness of the ships, arising from the improper practice of daily saturating the decks with water; to the contamination of the air between decks by the emanations from bilge-water; and to the unnecessary exposure of the men to the sun in the hot season. He recommends the exclusive use of distilled water on board ship, the substitution of dry rubbing for scouring, the covering of the bilges with galvanized zinc, and the employment of double awnings.

Gallard.—*On the Influence exercised by Railways on Public Health.* L'Union, June 5th, pp. 420, 451, and 474.

The author, who holds a medical appointment under the Orleans Railway Company, has availed himself of the opportunities thereby afforded him of comparing the health of those employed on the railway with other classes of workmen. He has investigated the comparative frequency and duration of sickness and the annual per-centage of deaths. As regards sickness, he finds that while among other operatives, each man loses annually sixteen to twenty days by illness, those employed on the railway never lose so much as eight days; the number varying in different years from six to eight. As regards mortality, the contrast between the railway employés and others is even more favorable to the former; for among persons of ages varying from twenty to fifty-five, the mortality ranges between 16 and 21 per thousand, while among the railway operatives, all of whose ages are within the above-mentioned limits, it ranges from 4·5 to 6·1 per thousand. From these facts, and from the absence of any special liability to the causes of disease dependent on the character of the employment, the author concludes that the occupation is rather salutary than injurious. As regards the injury of the health alleged to arise from railway travelling the author expresses great doubts.

Pappenheim.—*On the best means of destroying Noxious Vapours arising from Fat Melting.* Beit. für San. Poliz., part 3, p. 65, 1862.

The vapours arising from the melting of fat have been found to contain 7·6 per cent. of hydro-carbons in addition to the ordinary gases of the atmosphere.

Several successful methods have been adopted in manufactories on a large scale for getting rid of these products, all of which consist essentially in passing the vapours through a furnace of proper construction. The author finding that methods of this description were not applicable to small establishments, has devised a more simple proceeding. The emanations in question invariably contain, so long as the temperature remains below 212°, a fatty acid on which the offensive smell of fat boiling exclusively depends. The plan proposed consists essentially in combining this acid with an alkali. For this purpose a simple but ingenious apparatus is used, in which the vapours are passed through a layer of tow or flannel thoroughly soaked with potash ley. By this means the smell which is disengaged in the process, becomes almost inappreciable even when the quantities are large.

MARRIAGES OF CONSANGUINITY.

Boudin.—*On the dangers of Marriages of Consanguinity, and on the necessity of Crossing in the Human Race and among Animals.* Ann. d. Hyg., vol. xviii, pp. 6—82.

While some authorities maintain that marriages of consanguinity are productive of the most lamentable results, by others they are regarded as harmless, or even advantageous. M. Boudin resolves to appeal from opinions to facts, from assertions to proofs. He regards the question as one to which an answer can only be obtained from statistics, that is by determining the comparative number of infirm persons among the progeny of marriages between blood relations and others. Among the infirmities which have been attributed to this cause he has selected congenital deafness and dumbness as being most easily ascertained and investigated. In France (the only country in which the necessary facts have been recorded) it is found that consanguineous marriages (between cousins german, uncles and nieces, aunts and nephews, and the children of cousins german) constitute about 2 per cent. of the whole number. With this proportion as a standard of comparison, M. Boudin investigated the family history of the deaf and dumb asylums of Paris. He found in a total of 95 inmates, that 20 were children of unknown parentage, 8 of parents of doubtful consanguinity, 48 of parents not related to each other, and 19 of blood relations. It thus appears that 28 per cent. of the cases in which the parentage was ascertained were of consanguineous origin. By combining this result with those of the recent inquiries of MM. Landes and Chazarain at Bordeaux, and of M. Perrin at Lyons, the author arrives at the conclusion that while the general proportion of consanguineous marriages in France is 2 per cent., the per-centage of deaf and dumb persons born of such marrriages to the whole number amounts to at least 25 per cent. in Lyons, 28 in Paris, and 30 in Bordeaux. In other words, the deaf and dumb of consanguineous origin are from twelve to fifteen times as numerous as they would be, if the infirmity was equally distributed among the offspring of consanguineous and other marriages. It was further ascertained by inquiries of the same nature, that of those inmates of the asylums whose parents had been blood relations, 8 in 15 had deaf and dumb brothers and sisters, to the number of 12; whereas, in 51 children of unrelated parents, only 9 had deaf and dumb brothers or sisters, also to the number of 12. So that 80 per cent. should be added to the first category, but only 23 per cent. to the second, in order to obtain a true numerical expression of the relation under investigation. The author next inquires whether the liability to congenital deaf-mutism differs according to the various degrees of consanguinity. This is illustrated by the following numbers:—In 61 cases among the inmates of the asylums of Paris and Bordeaux, the degrees of consanguinity were in 1 case, that of nephew and aunt, in 1 of uncle and niece, in 42 of cousins german, 13 of second cousins, 1 of cousins of unknown order, and 3 of distant relations (sic). From the comparison of these numbers with the ascertained frequency in France of marriages between persons of the several degrees of relationship in question, the author concludes that if the probability of unrelated parents giving birth to a deaf and dumb child be represented by 1, the corresponding liability in the case of cousins german, must be 18, and of uncle and niece, 37.

The author proceeds to observe that the frequency of congenital deaf-mutism varies in different communities according to the laxity of the civil or religious restrictions which are in force with regard to consanguineous marriages. Thus it appears that in Berlin there are 3·1 deaf and dumb in every 10,000 Catholics, 6·1 in 10,000 Christians mostly professing Protestantism, and 27 in every 10,000 Jews, among whom the Levitical law allows of closer relationships than the Canon law. Again, in enslaved populations, among whom consanguineous and even incestuous unions are common, the proportion of deaf and dumb is correspondingly high. Thus, in the State of Iowa, while 2·3 deaf and dumb are met with in every 10,000 whites, there are no less than 212 among the slaves, and in other states of the Union, similar relations prevail. In localities in which natural obstacles exist to the marriage of persons not of the same blood, the relative number of deaf and dumb is found to be excessive. Thus, in France, there are 6 deaf and dumb to every 10,000 inhabitants; but in Corsica the number amounts to 14, in the Hautes Alpes 23, in Iceland 11, and in the Canton of Berne to 28. Boudin finds that the offspring of consanguineous marriages are liable to congenital deafness and dumbness, independently of any hereditary predisposition whatever; on the other hand, deaf and dumb parents, if not related, very rarely give birth to children having the same infirmity.

Separate sections are devoted to the influence of consanguinity, on sterility and albinism; but the author admits that his inferences on these subjects are not based on a sufficient number of facts to be regarded as positive.

CHILD.—*On Marriages of Consanguinity.* Med.-Chir. Rev., No. 58, p. 461.

In this paper the author first examines the supposed analogy between marriages of consanguinity and the in-and-in breeding of animals, in relation to which he points out, that in the breeding of stock, the degrees of consanguinity admitted are so close as compared with those which occur among mankind (*e. g.* in the pedigrees of short-horned cattle, the same bull often appears as the sire of four successive generations), that there is no real analogy between the cases. In so far as facts derived from this source are admissible, they tend to show that, unless the parents are themselves diseased, close breeding does not result in the deterioration of the progeny. In the second part of the paper he draws attention to the uncertainty of all investigation of the effects of consanguineous alliances in the human subject, arising from the impossibility of ascertaining by personal inquiry, the existence in the families investigated, of latent transmissible taints, and points out that no multiplication of cases will diminish this difficulty, for the tendency on the part of those from whom alone information can be obtained, must, in every instance, be to suppress facts of this nature. The author concludes that, although in practice, marriages of consanguinity often induce degeneration, they do so only by strengthening or developing in the offspring the individual peculiarities of the parents both mental and physical, whether morbid or otherwise, and that by a proper regard to the laws of hereditary transmission, and a careful investigation of the "hygienic history of the family," the chance of healthy offspring may be estimated by the physician, and an opinion given for or against any proposed alliance.

MITCHELL.—*On Marriages of Consanguinity and their influence on Offspring.* Medico Chirurgical Society of Edinburgh, Edin. Med. Journ., p. 872.

Dr. Mitchell's paper is based on inquiries made by himself as Deputy Commissioner in Lunacy. His investigation extended to whole communities, and embraced the history of all marriages, whether of consanguinity or others. By the comparison of the results observable in the two classes of alliances, he was enabled to arrive at more certain conclusions than by the exclusive study of selected and exceptional cases. From extended inquiries as to the parentage and family history of idiots, he infers that idiocy is more frequently referable to marriages of consanguinity than any other form of mental disease; and that, with reference to Scotland, it may be safely estimated that this cause produces about 9 or 10 per cent. of the existing cases. As regards deaf-mutism, his observations lead to the same conclusion as those of Boudin; but the numerical facts are not stated. The general question, whether or not consanguinity is injurious to the offspring, is answered in the affirmative.

FOOD.

CHEVALIER.—*On Coffee and its Falsifications.* Ann. d'Hyg., vol. xvii, p. 39.

Chevalier is of opinion that the falsification of coffee has now become so general that it has corrupted the public taste. Formerly people used to drink a pale coloured infusion, now the strongest coffee is understood to be a thick black liquid.

Coffee beans and ground coffee are alike subject to adulteration. Factitious beans, made of farinaceous paste artistically fashioned in moulds, are stated to be frequently sold in France, mixed with real beans, from which they may be readily distinguished by their friability and their conduct when treated with water. But a more frequent method of sophisticating the unground coffee consists in the employment of the process of "*enrobage*," which has of late years become almost universal. It consists in adding to the coffee, during the process of roasting, a quantity of sugar in powder, or of molasses. From the author's investigations it appears almost all the coffee in use has been submitted to this process, the effect of which is to increase the quantity of extract yielded by the coffee to render the infusion much darker in colour, and to communicate to it a flavour which the corrupt taste of the modern consumer approves. The proportion in which saccharine matter is added, varies from 5 to 10 per cent. In a recent report of the *Conseil de Salubrité* it is recommended that the sale of coffee, containing more than 10 per cent. of caramel, should be prohibited, and that the addition of smaller proportions should be indicated on the label.

EULENBERG, BEAUGRAND.—*Dangers of Nipples of Vulcanized India-rubber containing Zinc or Lead.* Ann. d'Hyg., vol. xvii, p. 445, Pappenheim 1862, p.d. 33-35.

For a variety of commercial reasons, principally for the purpose of increasing the weight, manufacturers have incorporated clay, chalk, lime, plaster of Paris, sulphate of baryta, oxide of zinc, and carbonate of lead, with india-rubber in the process of vulcanization. Nipples of this description may be distinguished, according to Eulenberg, by their having no join or seam, and by the dull, opaque, grey surface of their section, which is often dotted with white. They are moreover, thicker, less extensible, quite opaque, and scarcely at all elastic, and sink in water. Good vulcanite is semi-transparent, of a brown colour by transmitted light, and very elastic. Many children have suffered in Berlin from the use of nipples containing metallic poisons.

PREVENTION OF DISEASES.

REINHARD.—*On the Influence of Marshy Countries on the Mean Duration of Life.* Pappenheim, Part II, p. 10, 1862.

The district, on the statistics of which these researches are founded, is situated on the northern boundary of Saxony, immediately to the north of Bautzen. It forms the commencement to the great plain which extends northwards and eastwards from the mountain-ranges of Saxony to the sea. It is watered by several sluggish rivers, particularly the two branches of the Spree, and is subject to frequent inundations, which happen twice a year, after the melting of the snow in the mountains, and in the middle of summer. There are numerous ponds for carp, the breeding of which constitutes an important source of revenue. In some parts the land is kept covered with water and dry, for alternating periods of several years, being valuable in the one condition for the breeding of carp, in the other for the purposes of agriculture. The district comprises twenty-four villages, and is inhabited by 4814 persons. It has been subject to ague from time immemorial, and to occasional epidemics of continued fever. For the purpose of comparison, the author has selected a similar district in the adjoining mountainous country around Bautzen. His results are as follows:—The annual mortality from all causes is 21·8 on the hills, 29·8 in the plain; but as regards the mean duration of life no such contrast is observable. It is 31·1 years in the hill-country, and 30·6 years in the marsh. By further inquiries it appears, that this apparent equality is owing to the fact, that although adults, and particularly persons in middle life, are unfavorably affected by malaria, the infantile mortality is greater on the hills than in the plain. This is shown by estimating the mean duration of life after the exclusion of those lives which terminate before the close of the first year. In the valleys the result is 47·5 years, on the hills 44·5. After the exclusion of lives ending before the twentieth year, the remainder last in the valleys 59·6 years, on the hills 62·1 years, so that the difference is about the same as in the other case. It thus appears that, by the influence of the malarious poison, each individual on arriving at maturity is deprived of about three years of life, besides the loss which he sustains by the impairment of his physical vigour. The relation between the births and the population exemplifies the general observation that the birth-rate usually increases with the death-rate. While in the hill-country the birth-rate was 31·1, it was 38·2 in the marsh; but the difference was not in proportion to the difference of mortality, for in the former case the rate of births to deaths was 1·147, in the latter 1·128. M. Reinhard is of opinion that the facts may be accounted for by referring them to the difference of constitution as regards age of the populations of the two districts. That, in this instance, the high birth-rate does not imply greater fecundity is conclusively shown by the comparison of the number of legitimate children born, with that of the marriages, whence it appears that on the hills the average number of offspring of each marriage is 4·5, while in the marsh it is only 3·5; so that, notwithstanding the greater number of births, marsh malaria not only shortens the lives of the inhabitants, but diminishes their fruitfulness.

Polli.—*On Diseases arising from Morbific Ferments.* Milan, 1861, 4to, pp. 60. Schmidt, vol. 116, p. 242.

Starting from the assumption that many diseases arise from the introduction into the blood of putrescent matter, or of morbid ferments, and from the fact that sulphurous acid has the power of arresting every variety of fermentation, whether animal or vegetable, even those which are unaffected by white arsenic or prussic acid, and is, notwithstanding, neither poisonous nor prejudicial, the author was led to undertake the following investigation of the applicability of the acid and its salts, as prophylactics against the invasion of those diseases which are usually regarded as of septic or zymotic origin. The inquiry was based on experiments on animals; the following were the most important results arrived at:—In dogs killed after the prolonged administration of sulphites, the tissues and animal fluids resisted putrefaction longer than in other animals similarly killed, to which no sulphates had been given. The injection of pus, putrid blood, or of the discharge of glanders in such quantity as inevitably to produce fatal results, under ordinary circumstances, may be practised on dogs previously treated with sulphites with perfect impunity. It was also found that animals in which the injection of putrid matter into the veins produced scarcely any effect so long as they were under the influence of the prophylactic treatment, at once become affected if the experiment was repeated without previous preparation by the administration of the sulphites. If animals were inoculated with glanders, and then treated with sulphites, the wound healed without effect, whereas in dogs not so treated a phlegmon was developed at the point of insertion, and the disease soon manifested itself by its characteristic local and general phenomena. The diseases for the prevention of which the author regards the sulphites as peculiarly valuable, are dartrosis (under which term the author seems to include all suppurative cutaneous diseases), acute rheumatism, and intermittent fever, epidemic, and contagious-continued fevers, and those forms of fever (surgical and puerperal) which are dependent on purulent or septic absorption.

For prophylactic purposes the author regards the hyposulphite of soda as preferable to the sulphite, into which it becomes transformed after entering the circulation. But if a more rapid antizymotic action is required, it is more advisable to give the sulphites themselves. Of these he finds the sulphite of magnesia to be the best, as having no smell, and very little taste. As a remedy in septic diseases, the author has given the sulphites in very large doses, amounting to ʒiij in the course of the day.

Ricord.—*Is there such a thing as the Communication of Syphilis by Vaccination?* L'Union, February 6th, 1862, p. 227.

At the request of Professor Trousseau, M. Ricord delivered two lectures in the great theatre of the Hôtel-Dieu on the following case, which had occurred in the practice of the hospital, and appeared to afford a favorable opportunity for the discussion of this important question of public hygiene:—A young woman, æt. 18, was admitted, suffering from catarrh of the cervix uteri. In consequence of the existence of smallpox in the hospital at the time, she was vaccinated from a perfectly healthy child, and with lymph of which the source was unexceptionable. Four other children were vaccinated at the same time, none of whom exhibited anything abnormal. In the woman the punctures rose the next day, and were surrounded by a slight inflammatory areola, which in a short time disappeared. She then left the hospital, but returned on the twenty-first day after the vaccination, stating that the punctures on one arm had taken. On examination two pustules of ecthyma were observed. In fifteen days more it was found that these pustules had become patches of rupia (each having an indurated base), which were accompanied with axillary adenitis and a roseolous rash. In this case, as in that of the outbreak among the children vaccinated at Rivalta, Ricord, while admitting a coincidence between the appearance of syphilis and that of cowpox, denies the existence of any causal relation between them. "In neither instance," he maintains, "is it possible to determine what is the true door of entrance" of the syphilitic poison, but there need be no apprehension of the transmission of syphilis by vaccination, until some more positive facts are recorded in its favour.

CERISE, PACCHIOTTI.—*Further information on the Cases of Syphilitic Infection by Vaccination at Rivalta.* L'Union, February 8th, p. 322, and April 3rd, p. 19.

During the last year Pacchiotti has continued his local inquiries into the facts connected with the outbreak of syphilis at Rivalta. In the first of the papers above referred to he brings forward additional grounds for the conclusion that the forty-six children were really affected with syphilis, and that the infection was actually communicated by vaccination. With this view he recapitulates in detail the characteristic symptoms and development of the disease as observed and previously recorded by himself, and refers to the marked effect of an anti-syphilitic treatment (see 'Year Book,' 1861, p. 470). As additional evidence, he relates that, among forty-six mothers or nurses of infected children no less than twenty, who were perfectly healthy at the period of the first vaccination (October 7th), were, on the 8th of February, affected with secondary symptoms. He further records that, in order to ascertain whether or not the infection of syphilis had in any degree supplanted that of vaccination, five of the children infected, who were suffering at the time from syphilitic symptoms, were re-vaccinated with the utmost care. The results were all negative, showing the vaccine virus had not been deprived of its efficacy by being introduced into the system along with that of syphilis. As regards the surmise of M. Ricord, that in the Rivalta cases the concurrence of vaccination with syphilis was merely accidental, the author thinks that it is conclusively negatived by the fact that in two batches of children, vaccinated simultaneously at an interval of ten days (all of the first batch being vaccinated from one arm, and one of them yielding lymph for the vaccination of the whole of the second batch) the infection manifested itself by the same succession of syphilitic phenomena.

In the second paper, Dr. Pacchiotti states the further results of an investigation as to the source of infection. Having ascertained that four months after the vaccination syphilis declared itself in the mother of the child first vaccinated, named Chiabrera, by an indurated syphilitic ulcer of the breasts, accompanied with indolent multiple adenitis of each axilla, and that this was followed in two months by secondary symptoms, and having thereupon concluded that the case of the child could not be one of hereditary syphilis, he proceeded to investigate more carefully than ever the source of the vaccine which was employed, but with entirely negative results, so that the whole question remained undecided. In this obscurity a new fact presented itself to which the author attaches great importance. It appeared that an unmarried woman, a neighbour of the Chiabreras, who was herself syphilitic, and had lost a syphilitic child, had on several occasions, "two or three months before the first vaccination," nursed the child Chiabrera. It also appeared that another child, who was not vaccinated, but at a subsequent period was also occasionally nursed by the same woman, became syphilitic, and communicated the infection to its own mother. These facts, which are stated, so far as relates to the accuracy of the diagnosis, on the authority of Professor Sperino, of Turin, under whose treatment all of the cases were subsequently placed, lead the author to infer that the infection was communicated to the first child in the act of suckling (by an ulceration of the nipple or by infected milk?), and not, as at first suspected, by syphilitic vaccine.

SEATON, STEVENS, SANDERSON, AND BUCHANAN.—*Local Inquiries into the State of Public Vaccination in various parts of England.* Appendix to the Fourth Report of the Medical Officer of the Privy Council. London, 1862.

In these reports it is shown that in an immense majority of the inspected districts the existing contracts for vaccination are practically worthless; that, as a rule, the arrangements prescribed in them are such as would make habitual arm-to-arm vaccination rare or impossible; that often the attendances exacted are several times as numerous as the births in the same district; that even in districts where the number of children requiring to be vaccinated was insufficient to maintain continuous vaccination, even at a single station, the contractor has been required to attend at several; that such attendances being necessarily fruitless, the contracts have been entirely disregarded. In some districts vaccination has been almost entirely neglected; in others it has been carried on with great success. Whenever success has been attained it has been invariably due, not to the efficient working of the system created by the Vaccination Acts, but to the unaided efforts of individual contractors.

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